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NEW YORK 24, NEW YORK

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Membership Secretary



ARCHAEOLOGY

A MAGAZINE DEALING WITH THE ANTIQUITY OF THE WORLD

VOLUME 8 NUMBER 2

JUNE 1955

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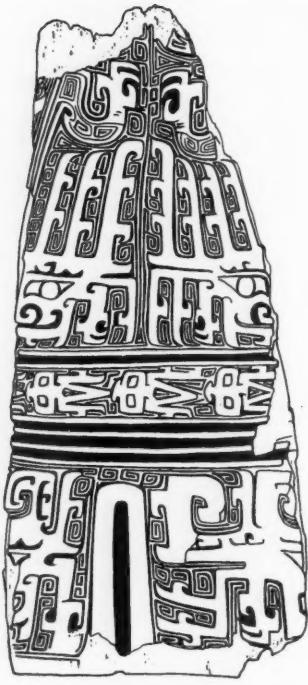
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FRAGMENT OF CARVED BONE VESSEL. Chinese, from An-yang, Shang II period, ca. 1400-1122 B.C. Ivory and bone carvings are among the earliest works of the Chinese. Many fragments of hair pins, hat pins, tubes, knobs, pendants, small implements, boxes, inlays and other personal objects were found at An-yang, as well as numbers of spoon-like spatulas exquisitely carved, doubtless for ritual use. Among dozens of these carvings now in the museum is the one here illustrated by a drawing. It is part of the base of a ritual or ceremonial vessel and is unusual in that it has been carved from the jaw-bone of a whale. The highly stylized dragons and the fairly realistic cicadas are like those on the spatula handles. The two great claws at the top are reminiscent of designs on some of the prehistoric painted pottery from Kansu. Whole skeletons of whales have been found buried near the Royal Tombs in this An-yang area, and the implications for ancient trade with the distant seacoast are obvious. Height 7 1/4 inches.

THE VAST COLLECTIONS of the Royal Ontario Museum in Toronto fall into three distinct divisions. The Division of Geology and Mineralogy represents the physical world and its development; the Division of Zoology and Palaeontology illustrates animal life, past and present; while the Division of Archaeology ambitiously claims to cover "the Arts of Man through All the Years."

The Division of Archaeology, whose first director and guiding genius for more than thirty years was Charles T. Currelly, grew with spectacular rapidity in the first quarter of the present century. The period of collecting has been followed by a period of organizing, study and publication. The material is not primarily a collection of art nor yet is it limited to archaeology. Extensive groups of European and Canadian furniture, ceramics, armor and textiles (particularly from Ontario), and objects made by primitive peoples illustrate the development of human industry from earliest times to the Industrial Revolution. Here there is space only to call attention to a few representative pieces.

The Chinese collection is the most famous in the Division of Archaeology. The early periods are well represented, with a quantity of material from An-yang including oracle bones, carved bones and shell, carved white pottery, dark gray pottery, small stone sculptures, pottery molds for bronze casting, carved jades and ritual bronzes. Three groups of Shang bronzes are of special importance, one of them from the famous "Elephant Tomb" at An-yang. There are also many inscribed Shang and Chou bronzes, including the Prince Kung set, the Mang Shan set and a large series of bronze dagger axes. Best known are the objects from Chin Ts'un (Old Lo-yang) of Late Chou period, which occupy a whole gallery. Ceramics outweigh all other fields in quantity and variety, and include the Han tomb tiles and the collection of Wei, T'ang and Ming pottery burial figurines, one of the largest in the world. There is an extensive group of about two hundred glazed pottery roof tiles, mostly Ming, and some fine blue and white Ming and Ch'ing porcelains. Sculpture includes the early Buddhist "Stele of the Departure," the late sixth century Imperial Mortuary Bed carved in Northern Ch'i style, a Graeco-Buddhist Bodhisattva from the caves of T'ien Lung Shan, and some fine Sung and Ming wooden figures. The Ming tomb of a high official of the late sixteenth century consists of six colossal stone figures, two carved stone gateways and an altar and tomb mound faced with carved stone slabs; it occupies a separate wing of the museum especially built for it. The fresco gallery contains



CERAMIC WINE POT. Chinese, Shang II period, ca. 1400-1122 B.C. This dark gray pot is said to have been excavated at Hsiao-t'un, An-yang, in 1933, together with many other pieces of the same ware, some forty-eight of which are now in this museum. A large number of these are imitations of well known Shang bronze shapes, such as *chüeb*, *ting* and *kuei*. But there are also shapes not yet known in bronze which show affinities with the ceramics of the prehistoric Black Pottery Culture. This is one of them. The lid, especially, is of the type found at Ch'êng-tzu-yai. This ware is thick and heavy, however, and although often almost black, cannot be classed with the jet black, eggshell-thin ware of that site. Nevertheless, it shows the influence of the prehistoric black pottery upon the Bronze Age potters of Early Shang II. Height 7 1/4 inches. Gift of Bishop W. C. White.

THE ROYAL ONTARIO MUSEUM

BRONZE RITUAL VESSEL, a libation cup of the type *chüeb*. Chinese, excavated at An-yang in 1940, Shang Dynasty, about 1200 B.C. These small distinctively shaped tripod vessels were used for heating the wine before the libation in the sacrifice to ancestors. This example bears symbolic motifs, snake dragons, *t'ao-t'ieh* monster masks and browsing dragons, all done in the graphic style by sunken line. Only the eyes protrude above the surface. Under the small handle is the sunken pictograph of the owner, which, we presume, is his name or the crest of his family, in this case a kneeling man with three pointed flames of fire for his head. It is the ancient character for *Kuang*, which means "light." The designs are so highly stylized they seem at first only an incoherent assemblage of hooks and spirals. Burial has given the bronze a wonderful olive green patina, which has been rubbed to a satiny polish in which the lines of the motifs, filled with an inlay of some as yet unanalyzed black paste, make a pattern of great richness and beauty. Height 8 1/2 inches. Obtained by Bishop White in China, 1947.



ONTARIO *continued*

three immense wall paintings, one Buddhist, of Maitreya in Ketumati, the other two Taoist, procession scenes of deities and star gods led by the gods of the Northern and Southern Dippers respectively. There is also a wealth of Chinese textiles, including a large number of Manchu imperial and official robes, among them eight emperors' twelve-symbol dragon robes and many gowns once belonging to the Dowager Empress.

Korean archaeology is represented mainly by a group of inlaid celadons; Japanese art by a lacquered wood figure of Miroku Bosatsu of the Fujiwara period as well as a typical collection of pottery, porcelain and prints; and Central Asia and Northwest India by a number of Graeco-Buddhist stone figures and reliefs from Gandhara, a stucco figure from Western Sinkiang, and a fine group of stucco heads said to be from the Swat Valley, notably a colossal head of a Bodhisattva.

The North and South American collections have been built up with the idea of securing a broad representation of the material rather than of acquiring a smaller number of outstanding pieces; yet they include some very fine material, particularly from Mexico and Peru. The collection of pottery from Casas Grandes is one of the largest in existence and contains an excellent cross-section of the magnificent products of the ancient inhabitants of that Chihuahua community. Pottery from the American Southwest, and particularly from the Pueblo V period, is almost as extensive and of equally great aesthetic value. But it is probably the Zapotec-Mixtec collection from the Mexican state of Oaxaca which most distinguishes the American galleries of this museum, ranging as it does through most of the culture periods of those peoples and containing many striking examples of their ceramics. The best known pieces are the hundred or more "funerary urns" in their astonishing variety; equally fine are the head of a large ceramic statue, the *incensarios* and the polychrome ware. The Aztec and the Teotihuacan collections are smaller but fairly representative, while the Mayan pottery from the Ulua Valley in Honduras is outstanding. Textiles and feather work of a high order characterize the Peruvian collection, especially those examples which come from the Ica Desert, while Mochica and Nazca pottery, much of it of extraordinary beauty, lends additional interest.

Most of the museum's extensive Egyptian collection was acquired by Dr. Currelly during six seasons in Egypt, from 1902 to 1908. Some of this material comes from the excavations of Petrie and Naville, since Dr. Currelly was

attached to the expeditions of both these men; and much comes from later excavations of the Egypt Exploration Society, through subscription for the museum by the late Sir Robert Mond. The minor arts are exceptionally well represented in the collection, which includes objects of unusual technical interest in every material used by the ancient Egyptians and illustrates the development of the various crafts and industries from prehistoric times until the Roman period. The objects on exhibition have been selected, arranged and labeled with special regard to methods of manufacture and use in daily life. Among the more important examples of fine craftsmanship are the Early Dynastic stone vessels, the Ahmose dagger of bronze, ebony and gold, the Eighteenth Dynasty glass vessels and the Nineteenth Dynasty game board of faience squares inlaid with engraved lapis lazuli. Although it is relatively deficient in Egyptian monumental art, the museum possesses four good examples of Old Kingdom sculpture, an important group of reliefs from the Eleventh Dynasty temple at Deir el-Bahari, a fine relief of an anonymous Twelfth Dynasty king and many interesting, if mostly fragmentary, pieces of sculpture from the New Kingdom. The West Asiatic collections are small but include some objects of particular interest, for example several representative pieces of Early Dynastic sculpture, five Assyrian reliefs (Ashur-nasir-pal II and Sennacherib), a lion in glazed brick from the palace of Nebuchadrezzar II in Babylon, and a few unusual specimens among the many bronze objects from Luristan. The Near Eastern department also contains cuneiform tablets, cylinder seals, stelae, pottery vessels, terra-cotta figurines and other material of special value to students.

The Greek galleries contain the well known Minoan ivory figurine, "Our Lady of Sports," an interesting tomb group from the Geometric period, and an excellent collection of pottery (particularly black and red figure), figurines, jewelry and other small objects. The Roman department has a very fine collection of ancient glass, and private life is particularly fully illustrated by objects from Roman Egypt, including tools, kitchen utensils, games and clothing. There is also a gallery devoted to Roman Britain. The original material in the Classical galleries is supplemented by numerous models and large-scale wall paintings by Miss Sylvia Hahn. Recently finished is a reproduction of the paintings in the Tomb of the Triclinium in Etruria, and a long frieze illustrating many scenes from Greek life, adapted from Greek vase paintings, is at present being completed.



CERAMIC FIGURE OF CAPARISONED HORSE. Chinese, from a group of grave figurines excavated near Lo-yang, Honan, dated A.D. 525. This fine Wei horse belongs to a set of about 160 figures buried with two brother princes who had rebelled against the reigning emperor and were summarily executed. They were interred near Yeh in northern Honan but afterwards were pardoned posthumously and the families allowed to remove the bodies to the family burial place in the Mang Mountains near Lo-yang, where they were buried with all the ceremony and trappings due their rank and position. This was told on the tombstones found in the grave with them. The large retinue represented by the figures includes armored foot soldiers and mounted bodyguards of several distinctive types, elaborately caparisoned horses without riders, ranks of civil servants variously attired, many musicians, and finally women, ox-carts, pack horses, camels, dogs, sheep and pigs. All figures are of dark gray clay with white slip and painted with unfired pigments in red, blue and green. Height 9½ inches.

ON THE COVER:

WEI HORSE, companion to the one above. Color photograph by Walter A. Curtin for *Chinese Burial Figurines in the Royal Ontario Museum*, by H. E. Fernald, to be published by the Oxford University Press through the generosity of the Bickell Foundation.

FIGURES OF TWO COURT LADIES. Chinese, Sui period, A.D. 589-618. Tomb figures of this type are well known, although not common, and reflect the dainty elegance of the women at the court of Yang Ti, where fashion in dress was greatly influenced by styles introduced from Kucha in Central Asia. Foreign music was also popular at the court at this time, and musicians, both men and women, came in large numbers from the kingdom of the Tocharians. This type of figurine, always shown holding a short rod or wand in one hand and an egg-shaped object in the other, has been reported in several instances as having been found together with small seated figures of lady musicians. This fact, together with the elaborate costume worn by these two figures, has led to the supposition that they are acting as orchestra leaders and are holding a baton and an ocarina—a surmise which has yet to be proved. The figures are of soft pale buff pottery covered with white slip and painted with unfired pigments in red, pastel blue and black. The double-peaked headdress originally had several ribbon-like loops curving out from the peaks to the projections at the back. Height 14½ inches. Gift of Margaret Priscilla Alden Band.



CERAMIC EFFIGY JAR. Mexican, ca. A.D. 1200(?). This little vessel is a product of the prehistoric inhabitants of a site called Casas Grandes, in the state of Chihuahua, Mexico, not far south of the United States border. The area remains one of the most inadequately known archaeologically in North America, but it is already clear that the Casas Grandes culture belonged to the general Pueblo pattern; it seems, moreover, to be a not too distant relative of the Mimbres culture. In its later manifestations (ca. A.D. 1200?), of which the effigy jar shown here is a good example, vessels were ornamented in a bold design of frets, keys, triangles and other figures, either in black on white, or in black or brown on a lighter brown surface. Height about 10 inches.



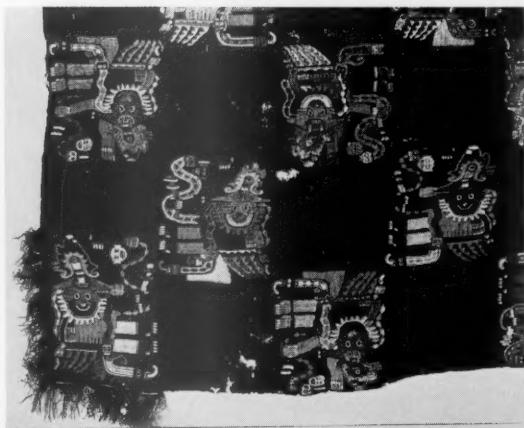


MIMBRES BOWL. Southwestern United States. In the museum's large collection of Southwest Indian pottery, this bowl from the Mimbres culture is an outstanding piece. Like most of the ceramics of that culture, it combines life and geometric forms, both executed with an equally high degree of skill. A full range of animate objects, from insects to men, was pictured in black and white ware; the figures here shown seem to be a combination of animal and human forms, though most are not so enigmatic. The fine-line work used in filling the blank spaces is also characteristic. The Mimbres culture, evidently under Pueblo influence, appears to have developed from the Mogollon about the twelfth century of our era. Diameter $11\frac{3}{4}$ inches.



ZAPOTEC FUNERARY URN. Mexican. These vessels are found in the tombs of Zapotec nobles, but always without any trace of offerings having been placed in them. They vary widely in size and shape, but all have in common a central vasiform cavity, hence the name. The façade may represent a human being, a deity or an animal, done in the grotesque style of the period, and frequently painted. The specimen shown here illustrates an animal deity, probably the Bat God, with a human head in its mouth and another bat as part of the headdress. Height $14\frac{3}{4}$ inches.

PARACAS MANTLE. Southern Peru, Paracas Necropolis culture, 400 B.C.-A.D. 400. This large and well preserved mantle was found in the Ica Desert of Southern Peru and can be ascribed with a great deal of certainty to the Paracas Necropolis culture. The black background is probably of wool, and upon this have been embroidered "demon" figures in subtle values of yellow, brown, green, red, white and black, alternate figures having been placed right side up and upside down. Although so elaborately and painstakingly made, mantles of this sort were used, it would seem, only for wrapping mummies about to be placed in the tombs. The production of such a textile may well have required several years' labor. Dimensions of mantle 8 feet 6 inches by 3 feet 2 inches. Size of corner illustrated about 16 by 12 inches. Gift of Mrs. H. D. Warren.



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FAIENCE BABOON. Egyptian, Second Dynasty, about 2800 B.C. This lively piece of modeling is one of the many interesting Early Dynastic objects which came to the museum from Flinders Petrie's excavations at Abydos, the original home of the great kings who united Egypt under the First Dynasty. Only a trace of blue-green and dark brown glaze survives but the animal has lost nothing of its strikingly characteristic form and pose. It was found in a chamber of the early temple along with other animal and human figures which had been dumped there to make way for fresh offerings, long before Abydos became the cult center of the god Osiris. Height 1 3/4 inches. Gift of the Egypt Exploration Society, 1903.



RELIEF OF DONKEYS AT THE HARVEST. Egyptian, late Fifth Dynasty, twenty-fifth century B.C. Sculptured and painted on limestone, this relief is from the tomb of a high official at Sakkara. The donkeys have been assembled to transport the wheat to the threshing floor, and wait belligerently to receive the sheaves, some of which are seen on the left. The nearest animal carries on top of its green saddle-cloth a roll of the empty sacks into which the sheaves will be stuffed. The legend says: ". . . remainder of the sheaves, thirteen hundred, the assemblage [of donkeys]." More sheaves in the broken register above indicate another part of the harvest scene, probably the binding and stacking of the sheaves, and the legs of two field workers are visible on the right. The original polychromy of this lively piece is well preserved, although there are extensive repairs, with some restoration at the lower edge. Dimensions 16 1/2 by 18 1/2 inches. Presented by the Reuben Wells Leonard Estate, 1953.



BRONZE FIGURE OF A GOD. Syrian, about 1200 B.C. He wears a tunic reaching to just below the knees and a headdress that is a debased form of the conical cap worn by Syrian and Hittite gods. The double-spiral ornaments are cast in one piece with the figure. The gold earrings are plain wire hoops but hang from ears that repeat the spiral motif. The left hand held an identifying symbol. The figure can be dated only provisionally by comparison with a large number of bronzes to which it is clearly related. Its features bear a particularly close family resemblance to a goddess in the Louvre Museum, which is identical in posture and technique and which also wears spiral ornaments. Left hand and forearm restored. Height 4 1/4 inches. Gift of Mr. Hyam M. Smith, 1950.

ONTARIO *continued*

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ONTARIO *continued*

RELIEF DEPICTING A JOURNEY INTO CAPTIVITY. Assyrian, early seventh century B.C. Limestone wall-sculpture from the palace of Sennacherib at Nineveh. Two women are mounted on a donkey driven by a man carrying a child on his shoulder and a staff in his right hand. The group recalls other sculptures from the same palace depicting captives taken by Sennacherib when he crushed Hezekiah's uprising in Judaea (II Kings 18:13, Isaiah 36:1), as well as a cuneiform inscription describing the deportation of the inhabitants of Jewish cities during that campaign, "two hundred thousand, one hundred and fifty people great and small, male and female." The date-palm in the background is more characteristic of southern lowlands, and the costume is typically Mesopotamian, so that the piece probably illustrates Sennacherib's campaigns in Babylonia or Elam rather than those in Syria or Palestine. Height of block 24 inches. Purchased 1950; originally in the private collection of Sir Austen Layard.



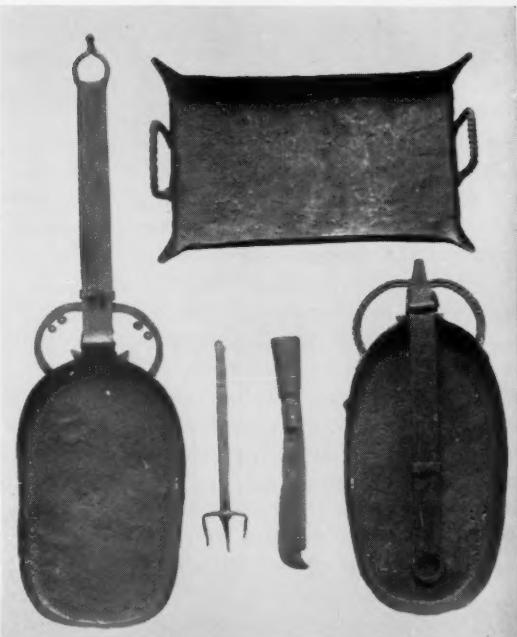
BRONZE COMIC ACTOR. Greek, first half of the fourth century B.C. The figure wears the typical costume of the comic actor as seen on South Italian vases representing scenes from Greek comedies: the tightly wrapped legs, the padded stomach and posterior, the phallus, the tunic passing over only one shoulder (*exomis*) and the grotesque wide-mouthed mask. The pans, restored after two other nearly identical figurines, suggest that it represents a kitchen slave. Height 3½ inches. Museum purchase 1953.



RED-FIGURE LOUTROPHOROS. Attic, about 440 B.C. These vases were used, as the name signifies, to bring water for the bridal bath; but if a girl died unmarried, the vase or a stone replica of it was placed on the grave. The bride wears a crown and carries probably a quince which she will eat at the threshold of her new home, no doubt because its many seeds would magically assure fertility. The attendants bear bridal torches. The extraordinarily fine drawing of the statuesque figures is by a contemporary and namesake of the great mural painter Polygnotus of Thasos. Height of the whole vase about 31 inches.

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IRON COOKING UTENSILS. From Egypt, late Roman period. At lower left and right are two similar frying-pans. The folding handles, a very unusual feature, are decorated with incised patterns and are ingeniously locked in the extended position by a ferrule sliding along the handle and fitting firmly over the tapering tongue of the attachment. One pan was neatly mended in antiquity with a riveted metal patch. The tray-like object (about 7 by 13 inches) at upper right may also have been used for cooking. The fork is obviously a kitchen fork; the wooden handle of the knife is well preserved.



• IN ARCHAEOLOGY 6 (1953) pages 232-238, Dr. Schlumberger described for us the uncovering at Surkh Kotal of a Graeco-Iranian temple dating from the early centuries of our era. In the present article he tells us of the fruitful results of his second campaign of excavations.

SURKH KOTAL IN BACTRIA

By Daniel Schlumberger

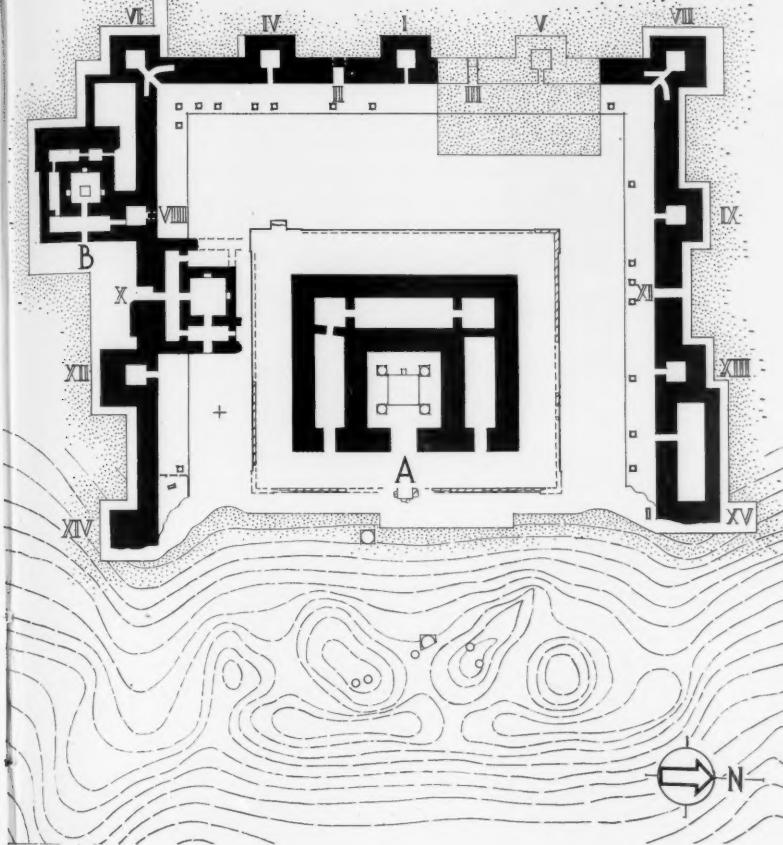
Director of the Délégation Archéologique Française en Afghanistan

READERS OF ARCHAEOLOGY are already acquainted with the discovery, made by chance in 1951, of late Hellenistic ruins at Surkh Kotal in ancient Bactria (now within the borders of Afghanistan) and the results of a first season of work there in 1952. In the autumn of 1953 a second campaign was carried out, the main purpose of which was to complete the excavation of the temple terrace and to start a systematic clearing of the temple courtyard.

The first of these aims has been achieved and much of the courtyard has been laid free. Two especially interesting features of the plan (Figure 1) may be commented on. First, access from the temple court to the temple itself was not obtained by a flight of steps leading up to the façade, as might have been expected, but by a narrow stairway (the lower step of which alone was found *in situ*) at the rear of the building, near the southwest corner of its terrace. This seems to indicate that the main rite,

or at least one of the main rites here performed, was circumambulation around the divinity that had its abode inside the temple. A second feature, no less remarkable, is the following: access to the temple court from outside did not take place through a large gateway on the front, but through four narrow passages: X, II (later blocked up), III (still unexcavated) and XI, all of them leading to the rear court of the temple. Such an arrangement apparently proceeded from a strong wish to keep the divinity and the ceremonies going on inside the cella as well protected as possible against any defilement, including even forbidden glances. Figures 2-4 give an idea of the monument as it appeared at the end of the campaign. Figure 2 offers a general view of the western terrace of the temple with part of the courtyard. Figure 3 shows part of the peribolos wall, with some of the column bases of the portico that surrounded the courtyard, as seen from the temple. Figure 4 gives a detail of the peribolos, with

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1. Surkh Kotal. Plan of the excavated area (December 1953); unexcavated areas in gray.

The sanctuary is shown at the end of the second period before it was destroyed by fire. No distinction is made between the original building and the additions of the second period. The additions of the third period are omitted. A cross shows the spot where an inscription (Figure 8) was found.

tower VIII, seen from the outside.

Besides these results, of a kind which had been hoped for, the campaign produced another, entirely unexpected and of no less importance: a second temple was discovered. Compared with the main temple excavated in 1952 (henceforth called Temple A) the new temple (Temple B) is but a modest building, erected against the outer wall of one of the peribolos towers (Figures 1 and 5). It consisted of a square cella, barely larger (4.88 meters square) than the platform of Temple A (4.65 meters square), preceded by a small anteroom, from the southern end of which a narrow corridor led around the cella into a rear courtyard. The building lay deeply buried under about five meters of debris, and when it began to appear we at first believed it to be some kind of annex to the main sanctuary. As the excavation progressed this surmise proved to be wrong: no communication existed between the courtyard of Temple A and the new build-

ing, which turned out to be entirely separate. Then came a discovery that suddenly made the picture clear: a square block of masonry stood in the center of the building. It is built of mud brick and is decorated with high reliefs in clay. At the corners are small Corinthian pilasters, and its main (eastern) side shows two birds facing front (Figures 6 and 7). Arches appear to have rested upon the pilasters and on a central column between the two birds. These arches are lost, as is the top of the structure, but its center still preserves a square depression, entirely filled with grayish ash.

Small and unassuming as it looks, this structure recalls in shape and position the beautiful ashlar platform previously discovered in Temple A (ARCHAEOLOGY 6 [1953] 236, Figure 8). From the beginning we had believed this platform to be the pedestal for a fire-altar but as no trace of the altar itself was preserved, this conjecture, however likely, could not be considered proved.

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2. The main temple and its courtyard seen from the north during excavation. To the left the back wall and western terrace of the temple; to the right (in the background) the southwest angle of the peribolos.



3. The southwest angle of the peribolos, with angle tower VI (door at the left, blocked up at a later stage), tower IV (door at the right) and remains of the portico.



4. Tower VIII seen from the north, with (left) adjoining section of peribolos wall, during excavation. Note the elaborate ornamental brickwork used to form false windows, showing arrow-shaped motives as on the stone battlement (ARCHAEOLOGY 6 [1953] page 238, Figure 12), checkerboard and other patterns.

SURKH KOTAL IN BACTRIA *Continued*

This time it was not a pedestal we had found but the fire-altar itself; therefore Temple B was a fire-temple and there cannot be the slightest doubt that Temple A was one too. The acropolis at Surkh Kotal definitely appears to have been a place for the worship of that great Iranian deity, Fire, the seat of the main cult being Temple A, with Temple B next to it like a small chapel. We now hope that this secondary temple was not the only one of its kind. Other ruins can be seen on the hill, and it will be one of the tasks of future research to excavate them in order to ascertain whether any secular buildings existed here or whether, as we should rather believe, the acropolis wall enclosed only religious structures.

As they had confirmed our guess about the nature of the temple, the finds of the second campaign have also confirmed our surmise about the date of the sanctuary.

More Kushān coins have been found, and these could be identified as belonging to Kings Kanishka and Huvishka. Thus it can now be taken for certain that the first two periods of the temple coincide with the time of the Great Kushāns. To the blocks bearing Greek letters of unusual shape (see ARCHAEOLOGY 6 [1953] 233, Figure 2) paralleled on Kushān seals, and probably to be considered fragments of an inscription in Kushān language, can now be added a stone (discovered at the spot marked with a cross, Figure 1) bearing, it seems, such an inscription (Figure 8), the first of its kind yet discovered. True, the third and last line of this short text is in Greek, naming a certain Palamedes, apparently the person through whose care the monument to which the stone belonged had been erected or dedicated. But the first two lines (the meaning of which remains to be explained) provide us

5. Surkh Kotal. Temple B, seen from the east in the course of excavation. In the center is the cella with the fire-altar; on the left the southern corridor. The walls of Temple B (on the right) cannot be distinguished from tower VIII (not yet entirely excavated) against which they lean. Behind the temple appear the heads of workers engaged in excavating the courtyard.



SURKH KOTAL IN BACTRIA Continued

with a sample of an Iranian language, most likely the one already attested by Kushān coin legends.

One point remains to be stressed: the close link that seems to have existed between the Fire cult at Surkh Kotal and the Great Kushān dynasty. Two important pieces of sculpture, it may be recalled, had previously been found on the site: a large but severely damaged relief (see *Journal Asiatique* 1952, page 443, plate VII, 2-3) and a statue (see *ARCHAEOLOGY* 6 [1953] 237, Figures 10, 11). From the beginning we had thought that the statue represented a king; the relief we considered a likeness of "the divine owner of the place." Closer study has not led us to uphold this last view. Just as the statue is strikingly similar to the well known statue of Kanishka at Mathura, the relief appears to be a kind of replica of a relief found at the same place and showing a seated Kushān prince. Both sculptures, we now believe, represented kings, and from the finds made during the second campaign (including the base of the statue, still *in situ*) there is at least some evidence to support the view that each of them was set up in a kind of chapel, perhaps for a dynastic cult.

A third season of work at Surkh Kotal is contemplated. It may be hoped that this campaign will shed some light on the two greatest and still very difficult problems raised by our excavation: what is the relationship of the Fire cult at Surkh Kotal to classical Zoroastrianism? And what is the relationship of art and architecture there with Graeco-Buddhist art and architecture?

6. The fire-altar in the centre of Temple B. The main (eastern) side of the altar shows two birds facing front under arches resting on angle pilasters and a central column. Of the arches nothing remains.

7. The fire-altar seen from the southeast, while being cleared, with (on the left) layers of ashes and charcoal still adhering.

8. An inscription found in the courtyard of the main temple. The letters are Greek; the language is not, except for the third line.



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• DR. WALLACE is Assistant Professor of Anthropology at the University of Southern California. His wife and co-author, who took all the photographs illustrating this article, is an anthropologist specializing in the archaeology and ethnology of California.

By William J. Wallace
and Edith S. Taylor

EARLY MAN IN DEATH VALLEY

DEATH VALLEY, most fabulous desert place of North America, is a long depressed basin hugging the eastern boundary of California. Its name commemorates the tragic fate of several parties of pioneers who perished here by thirst or through starvation and exposure during the Gold Rush of '49. A primitive and unspoiled desert country, the valley is about a hundred and thirty miles long and five to twenty miles wide. It is generally conceded to be one of the driest and hottest places on the continent.

When Caucasians first came into Death Valley, they found small bands of Indians belonging to the Shoshonean language family roving over it, and here a few survivors remain. Their living was drawn from the natural products of the desert and surrounding mountains. That they were preceded by other peoples is indicated by prehistoric remains recovered by a field party from the University of Southern California during 1953. The research was sponsored by the National Park Service as part of its comprehensive program of assessing the archaeological and historical resources of all national parks and monuments.

The archaeological investigation was essentially an exploratory surface survey seeking out sites and other remains on foot and by jeep. The territory covered was Mesquite Flat (Figure 1), the northern arm of Death Valley. In elevation this district ranges from forty feet above sea level to eighty below with most of it falling below the zero contour. Typical portions are covered with a sparse vegetation among which scattered stands of mesquite trees

are most conspicuous. The animal and bird life, though varied, is not abundant. This area, and in fact the valley as a whole, is often considered to be a waterless void. Actually this popular concept is far from the truth because, although precipitation is slight, averaging about two inches annually, and the humidity is exceedingly low, ground water seeping down from the surrounding mountains provides a fair water supply. In Mesquite Flat alone there are several permanent springs and a number of temporary waterholes.

Anciently, the region formed part of Pleistocene Lake Manly, a body of water ninety miles long, six to eleven miles wide, and nearly six hundred feet deep, which formerly covered most of Death Valley with fresh water. As the Glacial Age drew to a close and the climate gradually became warmer and drier, the water slowly evaporated. The only remaining traces are stretches of bare clay, frequently encrusted with salt, remnants of the floor and shorelines of this once extensive lake.

Indications of human habitation were surprisingly abundant in Mesquite Flat. Archaeological remains were found at nearly all points but increased in numbers toward the better water localities. None of the sites had any depth, the artifacts and other evidences of man's presence having been exposed on the ground by the blowing away of the light sand and soil. The surface collections from both non-pottery and pottery-bearing sites indicate a variety of occupations.

Most numerous were the characteristic "mesquite camps" (Figure 2) of the California desert. Over two



1. Mesquite Flat, Death Valley National Monument from the 1000 foot level at Emigrant Pass. Abundant evidence of human settlement was found in this low-lying desert region.

hundred and fifty were located on the edges of or in crater-like depressions between sand dunes which have piled up around mesquite trees. The Indians were drawn to these spots by the small groves of trees which provided them with edible pods, fuel for their fires, and protection against strong winds. The tough and heavy wood was also used to build their dwellings and in the manufacture of many household implements. Generally, the camps were in close proximity to recent or present-day waterholes. The nearby trees were hacked and burned.

All the sand dune sites appeared to have been temporary settlements, occupied by a small band of Indians for a few weeks or months during the year. They were marked by quantities of large pebbles, cracked and discolored by fire. Often well defined fireplaces ringed with stones and containing charcoal and ashes were encountered. Also there were accumulations of broken and complete tools, including many small, finely chipped projectile points of chert, jasper, chalcedony and, more rarely, obsidian. These arrowheads were typically triangular in form without distinct stems or barbs but frequently with side and basal notches (Figure 3). They are the same in all respects as those manufactured by modern Shoshonean Indians. Chipped blades and drills of the same materials also occurred. There was abundant use of milling stones and millers; the mortar-pestle grinding assemblage was known, but less frequently employed. Many sites produced sherds of a coarse brown ceramic ware. Pottery decoration, when present, consisted of fingernail imprints near the rim of the vessel. Mesquite-

log frameworks of shelters were still standing at several camps (Figure 4).

Quite different in appearance were three extensive archaeological sites on the eroded clay surfaces. Two were on well defined terraces of now dry Lake Manly (Figure 5), forty feet above sea level; the third was on a stretch of bare clay some eighty feet lower in elevation. Their extent and the quantity of artifacts present suggest that they were large, permanent settlements, occupied at a time when the area could support a greater density of population than at present. The localities were strewn with a wide range of whole and fragmentary stone objects. Included were a surprising variety of large points, blades and drills made from many different lithic materials (Figures 6, 7). Core tools—hammers, choppers, scraper planes—fashioned from quartzite pebbles were also present. Deep cylindrical mortars and long pestles of black or red scoria were the only grinding implements. No milling stones were found, although several flat oval pebbles which may have served as millers were collected. Pottery was absent.

A second and apparently distinct complex of stone implements occurred on the same clay surfaces. This comprised large flake and core tools manufactured from black basalt (Figure 8). Three camp or village sites and two workshops contained basalt implements, though nowhere in great numbers. In addition, two quarries from which the material was obtained were observed near the southern boundary of Mesquite Flat. The latter were isolated hills covered from brow to base with incompletely formed

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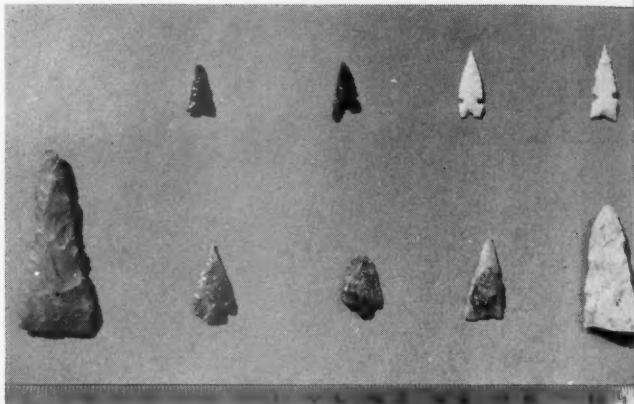
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DEATH VALLEY *continued*

2. A "mesquite camp" on the edge of a sand dune. Sites like this one were occupied by the historic Indians or their immediate predecessors.



3. Stone tools were the most frequent finds in mesquite camps. Arrowheads and knife blades like these were used by the recent Death Valley Indians.



4. Mesquite log framework of a dome-shaped shelter. The structure originally had a covering of arrowweed.



tools ("quarry blanks") and rejected cores and flakes (Figure 9). A few objects of basalt were found with those of the other lithic complex.

Any statements concerning the antiquity of the materials collected are necessarily tentative, as the region is relatively unknown insofar as the archaeology is concerned. More exploratory work will have to be undertaken before a sound sequence of cultures can be established. A few general observations, however, can be made. It is safe to assume that the mesquite camp artifacts were left by recent Indians or their immediate ancestors, as they duplicate modern forms. The chronological position of the remaining two assemblages is not clear. Both occur on old land surfaces in association with the ancient lake. The general absence of stratigraphic evidence makes it impossible to state which is the earlier. The presence of basalt objects at localities containing articles of the other complex may have resulted from a secondary mixing of artifacts by two distinct populations or perhaps indicates an over-lapping in time. Neither group of tools bears a close resemblance to cultural materials hitherto described for the arid regions of southern California.

Though the two complexes cannot be definitely placed in a temporal position one to the other, it is certain that

both are earlier than the mesquite camp assemblage and represent the most ancient traces of settlement noted in this section of Death Valley. The absence of materials of recent type, such as small projectile tips and potsherds, would indicate this as well as the locations of the sites on the margins of Lake Manly, away from present water sources. Occupation must have occurred during a period of moister climate when the basin still contained water and when the region, not arid and barren, was green and possessed a plentiful fauna and flora. Whether this was during the late Pleistocene or in a later cycle of excessive precipitation when the lake basin once again filled with water is not yet known. More precise dating must await geological investigation of the lake and its terraces. No organic materials suitable for Radiocarbon 14 analysis have survived from this early period.

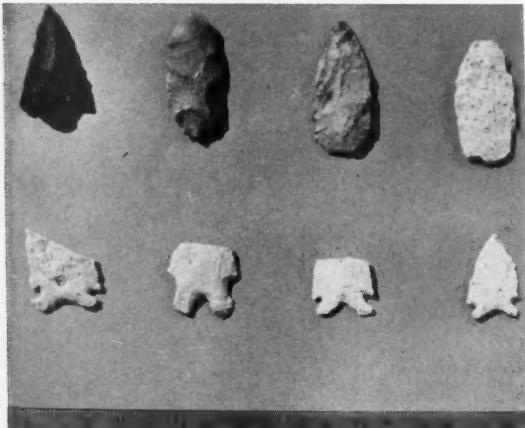
The shore-dwellers were probably forced to depart when the lake began to shrink and the area gradually grew drier and less hospitable. They must have abandoned their parching homeland long before the beginning of the Christian era and migrated to a more favorable land, perhaps dispersing in several directions. From the time of their leaving until the arrival of the ancestors of the modern Indians, perhaps only four or five centuries before the coming of the Caucasians, there ap-

5. Location of an early habitation site on the shoreline of Pleistocene Lake Manly. The site lies on the top of the eroded surfaces in the background.

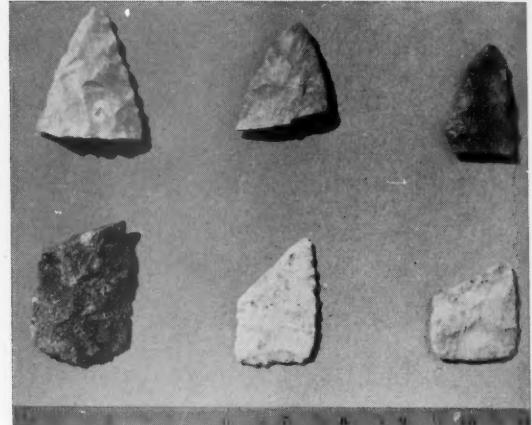


DEATH VALLEY *continued*

pears to have been little human occupation in Mesquite Flat. It was not totally uninhabited but archaeological materials attributable to this intervening time have not yet been found in abundance. With further work, the seeming gap between the earliest and more recent periods of human residence may be filled and a much broader cultural-historical sequence may emerge, conceivably extending over several additional phases of prehistoric occupancy. The ancestors of the historic Death Valley people presumably came in from somewhere in the arid Great Basin to the east with a way of life already well-suited for survival in a difficult geographical habitat.



6. Some typical stone tools from a lake front site. These large projectile points were probably used on darts, not arrows.



7. Fragments of large stone blades from lake front sites. These were surprisingly abundant.



8. Black basalt implements. These were collected from several localities bordering the ancient lake.



9. Unfinished black basalt tools from prehistoric quarry. Thousands of these were found.

• THE AUTHOR, who spent many days at the boat site during the preparatory period, is a Fellow of the American Research Center in Egypt. He is also Research Associate of the University Museum of the University of Pennsylvania and has recently been appointed Director of the University's project in Egypt. Mr. Dimick was formerly affiliated with the Middle America Research Institute and with the Carnegie Institution in Latin America. He was also Director of the Zaci-leu Project for the United Fruit Company in Guatemala.

LIFTING THE LID FROM THE CHEOPS BOAT GRAVE

By John Dimick

THE WORLD was thrilled when it leaned far down and looked by camera eye through a small hole punched in a twenty-ton block of Egyptian masonry and saw the so-called Solar Boat. Many thousands of enthusiastic words of varying degrees of accuracy fanned the public's eagerness for more. Now, after the excitement has begun to subside and the world's backbone has straightened away to normal from that small hole, comes a sober if less spectacular question. It is a question which hurdles time and challenges the modern scientists—how were they put there, those massive, well matched blocks of native limestone which covered the chamber where the boat rested?

During the rather protracted world-wide publicity since May of 1954 many hypotheses on that and other associated enigmas have been offered. At times accuracy has been invaded by impulsiveness or glamorous theorizing. How the stones were placed on the shelf-like ledges above the boat with airtight precision can, admittedly, only be guessed by the conscientious student of

Egyptology. The modern construction man, realizing the limited equipment used in ancient Egypt, is dumfounded.

Professor Abdel Moneim Abubakr heads a committee of Egyptologists and engineers whose purpose it is to resolve questions concerning the boat and its preservation. The findings of Professor Abubakr and his committee will be published. It is the purpose of this article to discuss the problems involved in lifting the stones.

A young engineer named M. Salah Osman employed by the Antiquities Department as maintenance engineer for the Giza Pyramids was assigned to the job by his chief. It was a good choice. In the course of one of our many conversations Osman told me that he was in charge of the workmen at the boat site during the first clearing of that area for a road. That was long before there was any suspicion of a discovery. He was also in charge of the crew when the first evidence of blocks appeared.

If Professor Abubakr had had at his command a twenty-ton motorized crane for use by his engineers, and had the problem been only that of moving some forty blocks of

THE CHEOPS BOAT GRAVE continued

This shed was built over the scaffolding to protect the boat as it is uncovered. In front of the shed can be seen the stones covering what is almost certain to be another boat. Scientists feel that it too is untouched. About one half the length of each stone is visible, the rest being buried under the debris at the right.



ordinary limestone, the task would have been simple. But he had no such equipment and every one of the stones was a potential archaeological treasure, many bearing quarry marks and graffiti, possibly cartouches. The ancient paint had become so perilously delicate that it would disappear forever at a touch. Sound planning for the use of available gear was essential. Hurried thoughtlessness in assembly of it by Osman could bring disaster.

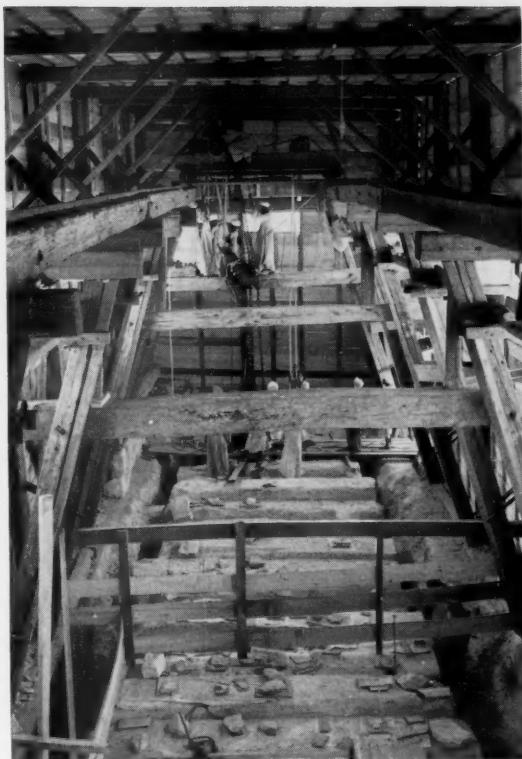
Heavy wooden foundations or sills were laid along the sides of the boat chamber a few feet from its edge. Solidly built A-frames were spaced about twelve feet apart on the sills. Random-sized timber from the available inventory was used for the frames and cross bracing. Side bracing and buttresses were of lighter materials. Osman and his crew placed heavy wooden stringers or beams on top of the frames. The beams were not new and were of varying lengths, spliced where necessary. The scaffolding ran the

length of the chamber and the beams were about twenty-five feet above the monstrous blocks. Earlier, when Osman had been clearing the site for a road, he had laid some very lightweight rail to carry away the debris in carts. Some of that rail was salvaged and spiked securely on top of the beams to make a track. Next Osman and his capable foreman skilfully constructed a dolly (a type of carriage for moving heavy objects or material). They stripped axles and wheels from one of the old dirt carts and reassembled them under a framework of heavy timbers. That was an ingenious operation. The dolly was made sufficiently wide so that when the chain hoists were suspended from it, they hung well out towards the end of the stone blocks. This would assure a minimum of side motion when the blocks swung free. The two hand-operated chain hoists of twenty tons capacity each which had been obtained were suspended from the dolly by several

turns of five-strand one and one-half inch manila-type rope. While the hoisting gear was being assembled and installed, carpenters were busy constructing a shed over the entire structure. The rather wide, sweeping buttress-type bracing which steadied the scaffolding was left exposed on both sides. A row of small windows was placed near the top of the shed to give light to the workmen while keeping out the incessantly blowing sand.

The growing sense of responsibility felt by Professor Abubakr and Engineer Osman as the time approached for lifting the first stone can easily be appreciated. It was my privilege to be at the site while preparatory work was in progress and I prepared a short report for Professor Abubakr in which I used American tables of stress and weight for comparison with the Egyptian tables. Lime-stone weights per cubic meter, according to my tables, were some fifteen percent greater than those given in Osman's. That resulted in an increased weight per stone of a little more than a ton. The safety allowances, however, were ample even for the heaviest estimate. The rope, the timbers, the chain, the dolly wheels and axles, all were checked by my manuals and found to be adequate. Salah Osman deserves high commendation for a cleverly done job.

It was not too difficult to comprehend the emotions of Professor Abubakr when the first stone rose and the carefully devised system proved to be sound. Rarely has an archaeological problem so positively required the compatible association of scientific and practical skills. After the glamor of the find has subsided, these two men will still be working there comparatively unnoticed. My strong sympathies were with both of them when the first strain was put on that improvised gear, and a huge dead weight hung suspended over the precious boat. If it worked, well and good, it was supposed to work—if anything failed, quick condemnation would come from all over the world.

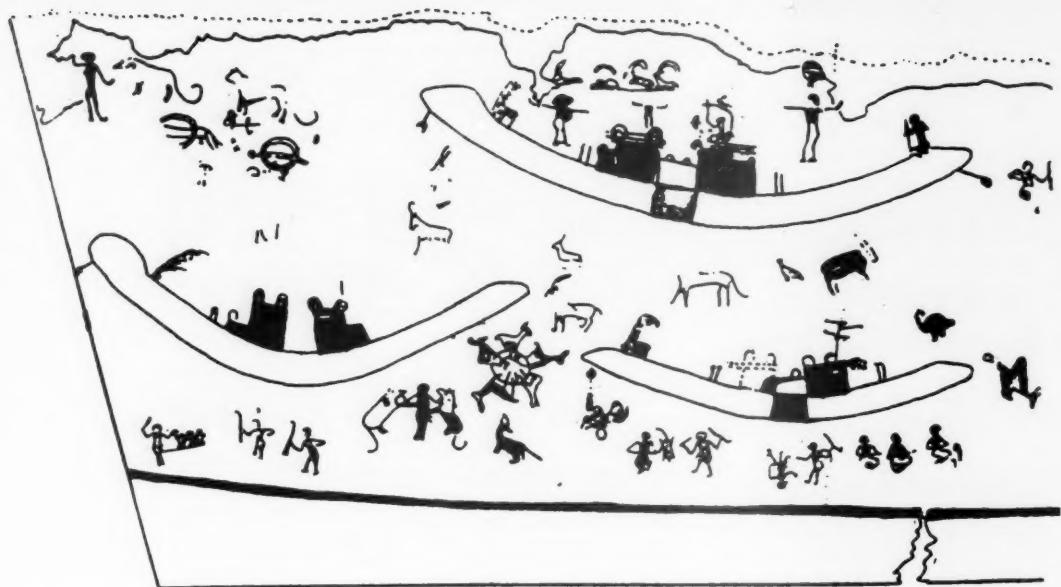


This view of the interior of the shed shows the scaffolding erected over the boat. High up near the roof are the light rail and the dolly for moving the chain hoists. The hoists were raised to the dolly by a small block and tackle and then bound securely.

Below on the blocks are a number of small stones. These hold down paper and cloth which protect the faint markings made by the ancient Egyptians. Some offer information concerning the cutting of the stone in the quarry. Others may be the cartouches of kings.



Three key stones much smaller than the principal blocks were at the west end of the chamber. They acted as wedges, filling up the last bit of space and holding the large covering blocks in place, thus assuring an airtight chamber. Here the middle one of the three is being removed, several days before the first of the main blocks, by Engineer Osman and his colorful and skilful foreman. This conventional dress of the workmen might be thought to hamper them but on the contrary, they move with catlike motion and it detracted from the glamor of the opening ceremony when they were put into ordinary dull brown coveralls.



Tomb painting on a wall at el-Kab dating from the Late Neolithic period. Here three different boats are shown. On the deck of each some palm branches overhang a small structure. Amidships there is a cabin for passengers. Note the mooring line on two of the vessels.

DIVINE BOATS OF ANCIENT EGYPT

By *Abdel Moneim Abubakr*

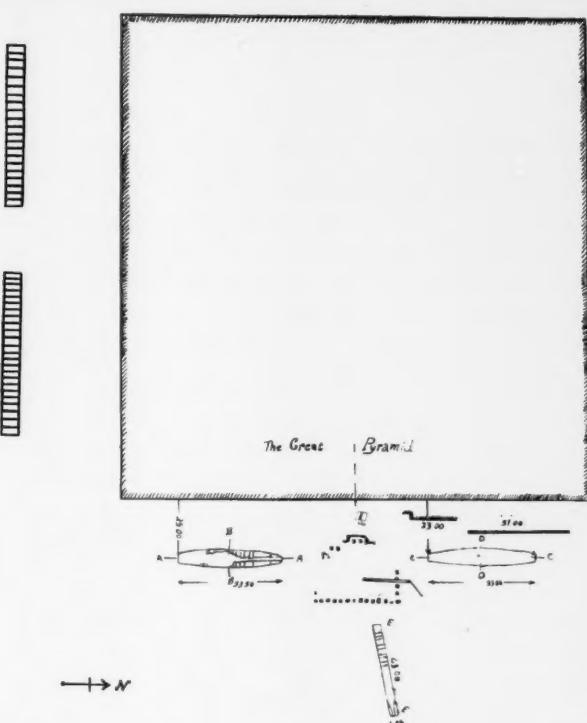
THE DOMINANT FEATURE of the Egyptian landscape is the great river Nile, which threads its way throughout the whole length of the country. Linking towns and villages, the Nile has always been the main highway of Egypt and her principal means of communication. Navigation was naturally the earliest means of transportation. In the ancient Egyptian language the term "to sail upstream" or "to sail downstream" was applied to journeys south or north, either on land or by water.

The earliest dwellers on the banks of the Nile, long before the days of written history, bound huge bundles of reeds together and, lashing them side by side in pairs, used them to cross and navigate the river. By the time of the Late Neolithic period the Egyptians had learned to build large boats of reeds. In some of the prehistoric tombs of Negada clay models of boats have been found,

and on the walls of a tomb at el-Kab (Hierakonpolis) which dates back to the same remote time there were found paintings representing six large boats, each different in form and detail.

From the foregoing we can see that Nile navigation and boats played a large part in the daily life of the Egyptians of all times and also colored their religious beliefs. The Egyptian's idea of heaven was a replica of his own beloved country and he believed that the hereafter would also have a celestial Nile, where boats were as great a necessity as in this world.

One of the earliest folk tales depicts the Sun God using reed floats in order to make his daily journey across the celestial waters, as the sky was visualized. The float in which he sailed by day was called Mandjet and that in which he made the journey by night was called Mesecket.



- Now Professor of Egyptology at the University of Cairo, Abdel Moneim Abubakr received the Ph.D. degree from the University of Berlin in 1936. He was the first Professor of Egyptology at the University of Alexandria (1948) and has conducted excavations for that institution at Giza and at Hermopolis Magna (Ashmunein).

Plan of the area of the Great Pyramid of Cheops at Giza, showing three boat pits on the east side and two recently discovered pits on the south side with their roofing blocks.

The king, as the representative of the Sun God on earth, would after his death also make use of the same means of transportation, and so we read in the Pyramid Texts: "The reed floats of Heaven are placed for this King Pepi, and he crosses by means of them to the horizon, to Ra." This passage and its many variants show us that the deceased king was in need of a vessel to ferry him across the sky in order to reach the place where his father, the Sun God, dwelt. This is the reason why huge rock-cut boats were found beside the pyramids, and that is the purpose of the wooden ships recently found beside the Great Pyramid of Giza.

The new discoveries made at the south side of the Great Pyramid of Cheops have yielded two huge boats, buried in rock-cut pits shaped to fit them. Three other boat pits were already known to be associated with the Great Pyra-

mid, situated to the east of it. Thus we have now a total of five boats, and the same number has been discovered to the east of the Chephren pyramid. The area around the third pyramid, of Mycerinus, has never been fully examined, so we cannot say how many boats were associated with it, or even if they ever existed. The same may be said about the two pyramids of Snefru, the father of Cheops, at Dahshur. Because the newly discovered boat pits of Cheops contain actual wooden boats, it may be asked if this was the case with the other boat pits. The late Dr. Reisner found in the bottom of the boat pit lying to the north of the causeway of the Great Pyramid fragments of gilded wood and some ropes, which led him to believe that a real boat constructed of wood had actually been placed there. The other pits belonging to this pyramid and to that of Chephren were empty; they too had

been violated in ancient times. It is worth mentioning that the newly discovered boat was not placed in the pit intact, but had been dismantled and its parts stacked in the pit, as nearly as possible in their correct relative positions.

Why both King Cheops and King Chephren provided themselves with five boats to be used in the hereafter is still a problem to be solved. Yet it is known that in remote times, before the unification of Egypt under King Menes, the country had been divided into many petty kingdoms, each with its own totem and deity. Moreover, in the fertile Delta were a number of important cities which were centers of certain cults. These cities, and consequently their totems, possessed a great deal of influence upon the others. Thus, when Egypt was finally united into one kingdom ruled over by a single sovereign, it was thought necessary that as part of his coronation rites the king should visit these ancient religious centers and there receive from their patron gods the divine right which would make him the legitimate ruler of Egypt. These cities of pilgrimage were Heliopolis, Buto and Sais. In order to make these sacred pilgrimages the king needed boats, and as he was supposed to re-enact in the other world all the ceremonies and rites which he had performed upon earth, he was naturally considered to have need in the hereafter of boats in which to fulfil these mystic pilgrimages. The idea of divine boats was not confined to the Sun God and to kings, for each god had his own boat, as is clearly stated in the Pyramid Texts: "Every God who decorates his throne in his own boat . . . the feast of Digging the Earth will be made for him and offerings will be presented to him."

Of these divine boats perhaps the best known is the curious vessel belonging to the god Soker, the Memphite God of the Dead. This had a high, curved prow and stern, the prow being decorated with the head of an ibis. In the famous zodiac from the roof of the Temple of Hathor at Dendera, the various gods and goddesses are represented sailing through the heavens, each in his or her boat. And as it was in heaven so was it also on earth. It was the custom on religious festival days to carry the sacred images of the gods in procession around the temples and through the town. On these occasions the statue, which was quite small, was placed in a shrine

standing in a richly decorated boat. This boat, resting upon long poles, was borne upon the priests' shoulders.

The boat of Amen-Ra at Thebes was a large and splendid vessel called "Weserhet," and on the walls of the Luxor temple we can see what one of these processions looked like. The god in his boat was preceded by a military band and choirs of male and female singers, while dancers and acrobats performed alongside, and priests burned incense and poured libations of wine and milk.

So deeply is the tradition of the sacred boat ingrained in the minds of the Egyptians that not even two changes of religion have been able to eradicate it. At Luxor there is a famous mosque named after a holy man called "Abu el-Haggag." This mosque is actually built in a corner of the great temple of Amen-Ra, and on the day of the annual feast the people of Luxor carry a decorated boat in procession from the mosque through the streets of the town. This is explained locally by the tradition that the holiness and fervent prayers of Sheikh Youssef Abu el-Haggag saved the ship in which he was returning from Mecca when the rest of the pilgrim fleet foundered. Yet we recognize in it the adaptation of an ancient Egyptian custom to an Islamic ceremony. We see in it a shadowy survival of the great water festival of Opet, when the Theban triad, Amun and his divine companions Mut and Khonsu, journeyed up river from the Karnak temple to visit their shrines in the Luxor temple.

Sheikh Abdel-Rehim, the famous saint of Qena, has like Sheikh Abu el-Haggag a boat carried out of his mosque in the procession during his annual festival. On the top of the mosque of Imam el-Shafi at Cairo is a large bronze boat which at one time used to be filled with grain as a feast for the birds on the occasion of the Moulid, the annual festival of the holy man. A similar bronze boat was also on the top of the minaret of Ibn Tulun Mosque at Cairo. Unfortunately it was swept away by a storm and has never been returned to its place. Also in many of the small domed tombs of local sheikhs (saints) one can see hanging over the tomb brightly colored boats of wood or cardboard. These boats have no connection with the mosques or the tombs they adorn; it is clear that they are a survival of the custom of placing a sacred boat in the temples of the ancient Egyptian gods.



View of the new Cheops boat looking east. The pit measures 31.15 meters in length, 2.60 meters in width, and is 3.50 meters deep. The boat was disassembled and the parts were stacked in the pit before it was roofed over.

Palm matting and piles of rope in good condition, lying between beams of the disassembled boat.



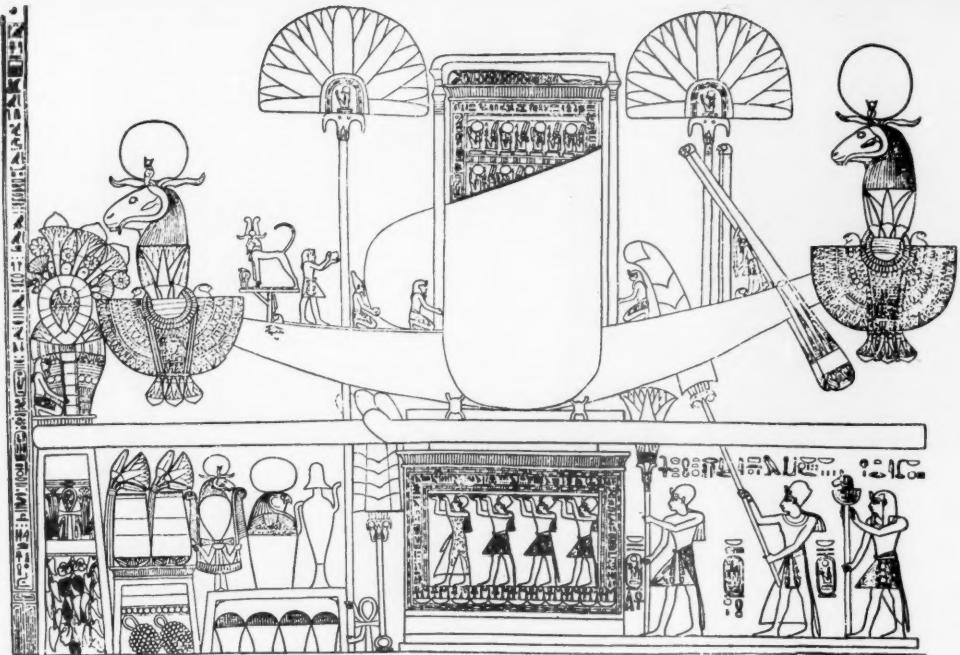
DIVINE BOATS *continued*

The bowsprit, shaped like a papyrus plant, leaning against the west wall of the pit.



Planking, part of a steering oar and panels placed between the hull of the vessel and the wall of the pit.





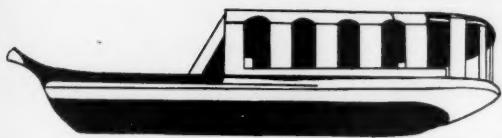
The divine boat of the god Amen-Ra at Thebes. From a relief of Seti I in the temple at Karnak.

The Luxor Temple of Amen-Ra with the seven-hundred-year-old mosque of Abu el-Haggag.



DIVINE BOATS *continued*

Even the memory of the splendid boat "Weserhet" has not quite died out, and there is a strange story often told in Luxor of how certain persons have seen a beautiful golden boat floating on the sacred lake of the temple of Karnak. This story is firmly believed, and many persons claim to have seen the mysterious vessel. Curiously enough, their descriptions always tally, and the boat they claim to have seen answers exactly to the description of "Weserhet," the divine boat of Amen-Ra.



The divine boat of Abdel-Rehim el-Qenawy at Qena. From a re-production.



The boat on top of the minaret of the Ibn Tulun Mosque at Cairo.



The top of the minaret of the Imam el-Shafi Mosque at Cairo.

• THE AUTHOR'S interest in numismatics was first aroused during the course of a seminar at Cornell University with Professor Eugene P. Andrews. In the summer of 1953 Miss Work traveled through Sicily and visited the site of Camarina where, she tells us, a pair of dwarf palms was growing beside the road, in the very proportions of those on the ancient coins. The results of her research are now being prepared for publication. Miss Work is Professor of Classics at Wheaton College, Norton, Massachusetts.

A CITY'S COINAGE:

THE MINT OF CAMARINA

By Eunice Work



On a numismatic map of Sicily, Camarina lies across the corner from Syracuse, its original founder, almost fifty miles away. Gela's man-headed bull is the nearest neighbor; beyond is Agrigentum.

A CITY'S COINAGE can be history, art or money. For history, a small jug of coins found beneath the pavement in Sardis or Marseille or Birdoswald can establish a point of empire. The design of a coin and skillful execution may tell a nation's ingenuity. The last thing to be told from coins, it seems, is economic potential.

There are two notable monuments of the Sicilian Greek city of Camarina: a proverb and a coinage. The proverb appears in Vergil, as Aeneas in his narrative skirts the high reefs and jutting rocks of Pachynus and sees in the distance Camarina. "The Fates have decreed," Aeneas says, "that she be not moved forever." With that passing quotation from Delphi, Aeneas sails on to the west, past Gela and Acragas, Selinus and Lilybaeum, to Drepanum's harbor. Aeneas may have done well to leave the proverb quickly behind. It arose without doubt from the question put to the Pythia: should the lagoon Camarina be drained? The response became a byword: "Move not Camarina, for it is best unmoved." Like other Delphic pronouncements it was ambiguous. The oracular voice was in fact disobeyed, and this commandment too moves from the status of divine injunction to figure of rhetoric.

Camarina's coinage, as thus far reassembled in these later days, includes some six hundred pieces of money in



Camarina's *litra* is the size of a farthing, but thin and brittle like Crusader coins. It contains seven-tenths of a gram of silver. The ninety coins extant showing Psyche and Athene represent almost half as many dies, and Psyche herself would have a hard time sorting them out.

For the
the
a dozen denominations of silver and bronze. Four small gold coins, in Brussels, in New York, in Paris, in London, may as well be from Catana as Camarina. Each city begins with KA and one as well as the other could properly show Athene's head and olive twig.

The first and simplest approach to a coinage is found in matching a sequence of dies within as long a series of coins as the remnants allow. The evidence lies in the coins alone, struck off one by one from pairs of dies in interchangeable combinations. The chance of error is small. It is indeed true that no other ancient art can be analyzed so surely step by step. The sequence is established by following the life of individual dies, of heads and tails, used separately or together. A clear obverse die, mounted perhaps in an anvil, seems to outlast the reverse, mounted less securely and presumably struck with the hammer directly. While one obverse die holds good, three or four reverses may be followed through, from tiny breaks to utter uselessness. The process can be illustrated in many a group of staters or didrachms in any city's coinage.

At this point the chance of error raises its head. There is danger in projecting our own tactics into the past, as there always is in judging another man's motivation or

practice. Yet the coiner who strikes coins one by one from pairs of dies on separated fixtures may reasonably be expected to work for several days with a single pair of dies. The obverse in the anvil holds true. The reverse springs an infinitesimal break. Our man might give up this slightly fractured reverse die on Monday, only to risk it again on Friday, the obverse still holding true. The possibility may yet be saved for sound analysis, since in the course of the week the anvil die itself is pretty sure to show definite wear, definite loss of clarity. That too can be traced, as it were from one day to the next, in a given series of coins.

Within a city's coinage, then, a sequence is painstakingly formed by matching dies in separate groups. The groups themselves must now be made to fall into probable relation of earlier and later before we may begin to speak of history, art or economics. The sequence is otherwise useless. The perfect solution would fasten upon one coin with an incontrovertible dating, and from that work backward and forward, Sicily's *Demareteion* perhaps, fixed by the battle of Himera and Carthaginian gratitude for the kindliness of Gelon's queen, or Athenian gold of the emergency issue of 406 B.C. Exactness is unknown save in the rarest of cases.

The helmet and greaves of Camarina's didrachm. There are only nineteen of these known. The dwarf-palm stands today by the roadside.



THE MINT OF CAMARINA *continued*



Twelve of the fourteen British Museum staters illustrate the range of Camarina types. The obverse is the winning quadriga; the reverse shows Herakles young or old, bearded or smooth. Except for half a dozen coins out of a hundred and fifty, there are symbols in the space at the bottom, the *exergue*, most often a swan or a pair of jugs, sometimes a fallen Ionic column, a fish or a laurel leaf. These staters can be arranged in exact sequence in groups. And there is ever the hope of finding in a new hoard the essential link between groups, to form an unbroken series.

Dependable evidence of dating is sometimes found in buried hoards. If our own Camarina coin so found cannot itself be dated, there is a chance of seeing what company it has kept, boxed up for two thousand years in the till of a man or a firm. There are records of four such hoards as witness of Camarina's mint, to tell as much as they can. One hoard was found in western Sicily, and so far as anyone knows, no coins were lost from it. The one coin of Camarina, in a total of a hundred and one of its neighbors, fits exactly in a series already formed. Its two dies are nearly worn out, but they are used with each

other in only one case besides, in a series of sixty. The determining factor in this particular hoard is the latest item in the lot, a coin of Rhegium of 387 B.C. If that dating is certain, we have for our town too at least one limitation. Thus with clues and counter-clues, real and not conjectured, we learn what we can learn exactly before we fall back upon judgments subject to opinion.

Style must be warily handled. Sometimes an old-fashioned style is continued on purpose. Sometimes the designer reverts, as fashion has recently done for the ladies, sloping their shoulders again and giving them

jackets like sacks, which some of us wore in the twenties. Style must be handled with care, though for coins there are critical safeguards of judgment, and one especially useful, the parallel styles of sculpture, with stances and smiles and curls.

Types and symbols must be regarded more warily still for dating and meaning alike. Doubts can be multiplied here to the point of impertinence but even flippancy might often save veracity. If, for example, the head of Athene appears in Camarina or elsewhere, the type can be called the result of a visit of envoys from Athens. A date is assumed for the coin, and quoted next week as indelible asseveration. It is tempting sometimes to refer a reputed significant type of the ancients to the case of the golden-guinea beehive on the British bank-note, at first no beehive at all, the Bank of England is quoted as saying, but only a heap of golden guineas, growing by slow stages into a beehive's likeness. We are then told that in a given year a given official completed the metamorphosis and proclaimed the beehive an appropriate symbol of industry.

In our own pockets the Benjamin Franklin half-dollar bears a symbol, an eagle in fact, which could be taken in ages hereafter for two angels assisting at the birth of the hawk-headed son of Osiris. We have a Roman eagle, a Fascist dime, and in full circulation in 1955 a North American buffalo and a Sitting Bull. These things are safe with us because we are here to speak for ourselves. The ancients are only too much at our mercy.

The types of Camarina's coinage are those of a city which lies beyond the range of measurements and fact. Even the witness of the written word may sometimes be a lottery, but when there is no word at all to record the deep past, then the task of proving a document false or true seems easy as compared with circumstantial conclusions. The best the written page can do for Camarina is to speak of the city itself: founded, destroyed; re-founded; handed over wholesale as ransom for prisoners; refounded, destroyed; founded, we say, in 599 B.C.; two hundred years later it was firmly swept from the map, about the time young Cyrus was marching off to Cunaxa. No one anywhere speaks of its money, not Herodotus, Thucydides, Strabo, Diodorus or Vergil.

The record of alliances, short or long, suggests comparison with the vast coinage of Syracuse, Camarina's founder, and with that of Gela under Gelon the tyrant. Gela, Herodotus tells us, in his search for allies against Persia, was a power "surpassing by far any power in Hellas." Thucydides tells the story of the cities of the Greek New World in detail, to set the stage for his own famous war. To him it seemed important to go back to Naxos, the first of the colonies in Sicily. From there he proceeds to the others, settled, he says, in his own scheme of dating, "the following year," "five years after Syracuse," "about the same time," "two hundred and forty-five years later," "a hundred years later." His point in so much detail is to chart the island "which the Athenians were bent on invading," working up a pretext, he says, of coming to the aid of kinsmen and allies. This interplay of historical witness, with much talk of Camarina but none of its coinage, again proves the helplessness of the investigator who has in his hands mere objects. In the teeth of this wary pronouncement, the explorer proposes, twenty-five hundred years later, to build the story of a city's money on the basis of the surviving output of the mint.

On most of the coins there is one unmistakable word: KAMAPINAION, either backwards or forwards, written in full or acceptably abbreviated. The types and symbols, in a catalogue order of coins, begin with Nike and an Athene Parthenos, and range on through a Corinthian



In our own day a series of British pennies shows a sample of sequence, a single type of reverse used with a changing head: two Victorias, younger and older, an Edward, two Georges. In the same country two stamps on one letter demonstrate the possibilities of dating by finding things in juxtaposition.

THE MINT OF CAMARINA *continued*

helmet, alone and empty; a fruited dwarf-palm, surprisingly flanked by a fine pair of greaves; a winning quadriga; the head of Herakles; the horned head of the river-god Hippatis, full face; the river-god in profile; the nymph Camarina, daughter of Ocean, riding the waves on a swan; a swan on the waves; a free-galloping horse from Carthage; and Nike again; a gorgoneion; a lizard, an owl. In these there is nothing pointing to unquestioned, definitive, historical landmarks. There is promise, however, even in posing the questions and in bringing to bear on them every conceivable clue.

As for the spending of money, we find frequent remarks in classical sources about the prices of things: we are told the expense of outfitting a ship or sixty ships; the capital required—two hundred thousand drachmas invested at current rates—to produce six talents income a year; a fine of two drachmas for cutting vine poles, perhaps in another man's wood-lot; a fine of two thousand drachmas for failure to register papers with the



Even in antiquity exactness of a kind is found in signed coins, signed presumably by the creator of the dies. The head in profile (top left) is a new acquisition of the British Museum. The artist is Exakestidas, and the first five letters of his name appear, retrograde, under the line of the neck. The facing head (top right), last seen in the east sector of Berlin, should

have four worn letters under the chin, for the famous Euainetos, or someone else of the same name. The Herakles head (bottom left) faces a small booklet bearing three letters on each of two leaves—Exakestidas again. On an Oxford coin (bottom right) the line under the quadriga bears the full name of Exakestidas in minute letters.

revenue office on time. Ancient sources, on the other hand, have produced not a glimmer of light for a few economic enigmas: what, for example, is the relation of the present six hundred coins of Camarina's remnant to the total output of the mint? What is the apparent relation between the amount of coinage and the known power of the city? Would the ruins of the city's coinage point to the power of an Athens or a Sparta by Thucydides' gauge? Were these coins used as a measure alone, or were there enough to let us believe them currency? If we in our economic world live by promises, by what manner of promise did the men of Camarina live?

Whatever all this may have been in theory or practice, a quantity of Camarina's money remains in tangible form, the coinage of neighboring cities remains, of Gela and Syracuse, Agrigentum, and the Leontini of Gorgias. With these resources at hand the explorer is well content, and ready to pose the final questions to be answered or at last abandoned.

The supposed technique of striking ancient coins may be responsible for special kinds of puzzles. If the workman is faced with four objects, an anvil, a movable top die, a hammer, a flan, we may easily see the effect of a somewhat decided misstep, a copyist fallen asleep. The upper coin has had two blows of the hammer, while the anvil obverse held steady, and the mistaken blow produced as clear an outline as the first, on Herakles' cheek. The bottom coin has a complete double-take of the head, with one profile in place, the other at right angles, at the lower edge of the coin, while the die of the anvil holds steady. The Syracuse coin, in the middle, has an axial line peculiar to these Western coins and thus far without clear explanation.

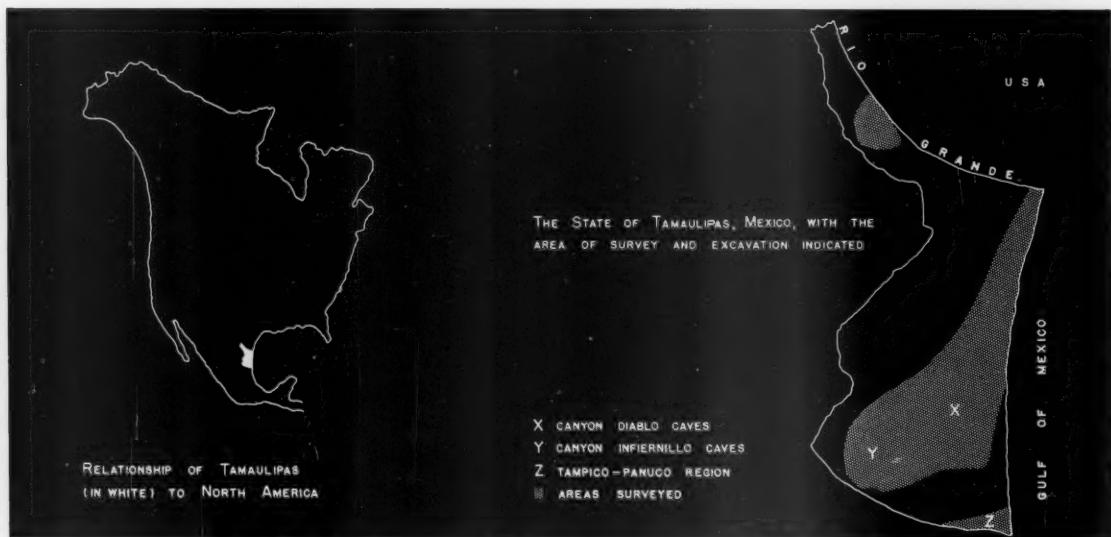


• Dr. MACNEISH's research has led him to many parts of the western hemisphere. During and after his studies at the University of Chicago (B.A. 1940, M.A. 1946, Ph.D. 1948) he worked in Arizona, Illinois, Pennsylvania and Kentucky. In 1945-46 he directed the first archaeological reconnaissance in the State of Tamaulipas, Mexico, for the University of Chicago; in 1949 he directed the Second Tamaulipas Expedition, under the auspices of the Viking Fund; and in 1953-54 he was Director of the Third Tamaulipas Expedition, sponsored by the American Philosophical Society, the American Academy of Arts and Sciences, and the Museum of Botany of Harvard University.

At present Dr. MacNeish is on the staff of the National Museum of Canada and is undertaking reconnaissance, excavation and analysis in the Yukon and Northwest Territories, and in the province of Manitoba.

ANCIENT MAIZE AND MEXICO

By Richard Stockton MacNeish



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THAT THE ELUSIVE developmental stages leading to civilization in Meso-America might be more easily found in the peripheries of that area was conjectured by Dr. A. V. Kidder a number of years ago. Recent investigations in northeastern Mexico have shown that this was a very astute observation.

Northeastern Mexico, that is, the southern part of the State of Tamaulipas and the northernmost part of the State of Veracruz, has a number of characteristics particularly adapted for the study of this problem. First of all, remnants of ancient stone cities occur in this area but they are not so numerous nor so rich that one is likely to be sidetracked from the search for early remains. Secondly, this region is outside the area of dense vegetation and humid climate so that small sites without architectural features can easily be found and many cave sites have excellently preserved ancient human remains.

Considerable investigation has been undertaken in this region. Dr. Gordon Ekholm, in 1940, dug four sites in the Tampico-Panuco region which revealed a sequence of six archaeological phases (Ekholm, *Anthropological Papers of the American Museum of Natural History* 38, Part V. 1944). In 1948, I made further excavations at Panuco and added three earlier phases to this long sequence (MacNeish, *Transactions of the American Philosophical Society* 44, Part 5. 1954). These nine periods represent the development of the Maya-speaking Huastecs from a stage when they were simple sedentary pottery-making farmers living in villages to one in which they were city dwellers with a complex social, political and ceremonial structure. Dr. Ekholm and I have gone to considerable length to demonstrate that this local development is connected fairly closely with the development of civilization farther south in Mexico and Guatemala. For me, however, the greatest value of this sequence is that it seems to connect fairly closely with one in the Sierra de Tamaulipas to the north and another in the Sierra Madre to the northwest. Here three hundred and forty-six sites have been discovered in archaeological reconnaissance by Jack Hughes, Luis Aveleyra, David Kelley, Peter Pratt, Peter Grant and myself. Of these, nineteen sites have been excavated, by me alone or with the assistance of Kelley, Pratt and Grant.

The first pertinent data bearing on the problem of the development of high cultures in Meso-America were revealed in 1949 and the most significant information re-

sulted from excavations in the Canyon Diablo (Devil's Canyon). Here in midseason, after excavating two caves which had pre-pottery remains under a pottery complex not unlike that found near Panuco, we decided to test La Perra (The Bitch) Cave a few miles away. These trenches yielded little of interest, so just before the final five-foot test square was completed, I departed to supervise the packing of materials from a previous dig. Before leaving, I instructed my Mexican foreman, Alberto Aguilar, to complete the excavation and to bring all equipment and specimens to the base camp in the town of Los Angeles for shipment.

Two days later, just outside Los Angeles, I greeted my supervisor from La Perra Cave with the question, "Did you bring the equipment and specimens?"

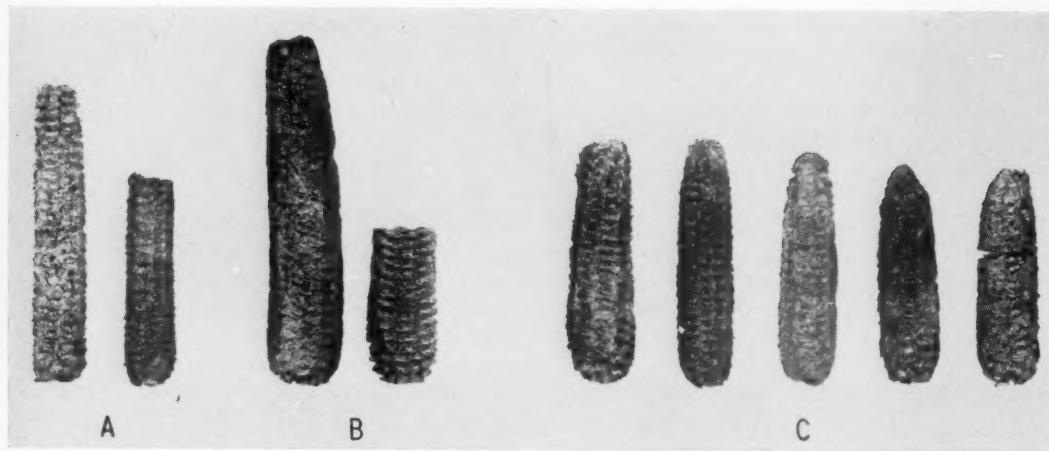
The answer, accompanied by a big grin, was "No."

The reply to my question, "Why the devil didn't you?" was an even wider grin and the statement, "Because I found what you hoped we might find." During the next ten minutes, walking into town, all my interrogations were answered with a grin and, "I'll show you some of it at the house." As we approached the house he ran in and returned with a box labeled "Northwest corner of Square N1SW5, depth 14 inches." In it were three corn-cobs wrapped in fiber string and part of a petate (mat). My supervisor also informed me that he had left other vegetable artifacts *in situ*! Needless to say, all my plans changed and we returned to La Perra Cave with a crew of eight men for three weeks of digging.

During these three weeks we peeled off numerous thin layers of ancient vegetable remains and artifacts which had been used by the inhabitants of the cave. In reality only an area about ten feet wide, fifteen feet long and two feet deep had been preserved, but here absolutely nothing had succumbed to the ravages of time.

Later analysis revealed that these vegetable remains had been discarded by two entirely different peoples. The upper part of the refuse belonged to the Laguna Focus, that group which had built the structures on the hilltops surrounding Canyon Diablo and which was closely related to one of the earliest cultures that Ekholm and I had found at Panuco. The preserved layers showed that these people had made fine pottery, spear points, stone celts, and manos and metates (grinding stones). They had also woven cotton cloth on a loom, made baskets and mats out of palm leaves and string out of cotton

ANCIENT MAIZE AND MEXICO *continued*



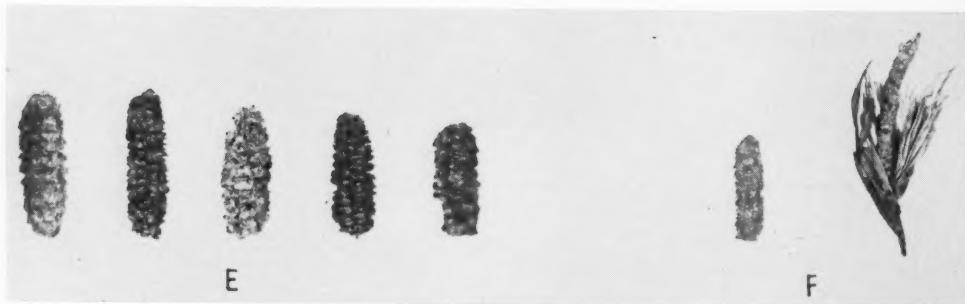
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Prehistoric Maize Types from La Perra Cave (one-half natural size):

- A.** Mestizos type
- B.** Dzit-Bacal type
- C.** Modern Nal-tel type
- D.** Early Nal-tel B
- E.** Early Nal-tel A
- F.** Very primitive Early Nal-tel A type (note pods at base of cob in the last specimen to the right).

and maguey roots, as well as nets from the string. Perhaps more important, however, than these perishable artifacts were the ancient food remains. They had cultivated manioc, beans and squash, two kinds of corn of a sort the Mayas use today and another type of corn like that still grown in the area. Cross-dating of these materials with those at Panuco and cross-dating the similar Panuco materials with other areas of more southerly Mexico showed that these peoples lived about 2,500 years ago.

The analysis of the lowest preserved levels revealed a much earlier culture. Parts of these remains have been dated by Dr. Libby of the University of Chicago, using the Carbon 14 method, as being 4,445 years old ± 280 . This earlier culture, which has been called La Perra, used no pottery but had coiled baskets, simple checker-woven mats, coiled nets, string and wooden awls. The shafts of spears were found in association with large crude triangular projectile points and a wide variety of crude flint scraping tools, ovoid flint knife blades and crudely fashioned manos and metates made from river boulders. More amazing, however, than the preserved artifacts was the evidence of these ancient people's diet. The bulk of their food (86%) seems to have consisted of wild plants, grasshoppers and wood grubs, but split and scraped bones revealed that some of their sustenance (10%) came from large animals. Besides these remains of wild food there were a few fragments of domesticated plants, representing about 4% of their diet. About half of these specimens were fragments of squash, that is, seeds, rinds and stems, while the other half consisted of two extremely primitive types of corn. These two types, though ancestral to primitive living Maya corn, are now extinct. Dr. Mangelsdorf of the Botanical Museum of Harvard University, who has studied all the plant remains, classed these earliest types as Primitive Nal-tel A and B. His study of these two-inch-long cobs has revealed that they have eight rows and that each kernel of every row is surrounded by five pod-like leaves. At the time of its discovery this pod-pop corn was the most primitive corn ever found in Mexico.

The La Perra materials are in themselves fascinating, for they are older than, if not ancestral to, Meso-American "high culture." However, it was only after Dr. Mangelsdorf's study of the sequence of corn from the cave had demonstrated that the very primitive types discovered also displayed the development of some modern types, that plans were made for another expedition to southern Tamaulipas. The purpose was to concentrate on finding dry cave sites which might add further and fuller chapters to the story of the origin of agriculture and the development of civilization in Meso-America.

This expedition, which completed its field season in May of 1954, began on December 1, 1953. As usual we were held up by the buying of equipment, various kinds of official red tape, and the inevitable breakdowns which occur in rugged back country. We were fairly successful in finding sites in December, but none was the sort of dry cave we wanted.

In my notes, however, there was a reference to a cave above Canyon Infierillo in the Sierra Madre that Javier Romero and Juan Valenzuela had visited in 1937 (Romero y Valenzuela, *Analés del Instituto Nacional de Antropología e Historia, Tomo I*, 1945). So, besides looking for caves, we also sought Don Ignacio Guerra, who had been their guide to those caves. Finally, on Christmas Day, we found him and he was ready and extremely willing to take us to the caves the next day. The trip was a memorable one, for it was not well planned. The first day, about thirty miles on horseback, was extremely trying for us who were not accustomed to the ranchers' wooden saddles that are used in the mountains, and to top this very rough day it was cold and rainy that night and we were without tents.

We survived, however, and the next day we covered another fifteen miles and camped on the mountain top, just above the caves. The following day we searched for them, but the thick bush had overgrown the trail since 1937 and we searched eight hours without success. Then,



Romero's Cave in the Sierra Madre of southern Tamaulipas, Mexico.

just as we were about to quit for the day, tired, sore, sleepy and discouraged, two local ranchers appeared, who told us we were right next to the correct trail and led us to the caves.

The first cave was extremely large and dry, and holes dug by treasure hunters revealed numerous strata of preserved vegetable materials. In fact, within the first five minutes we found on the backfill of a treasure-hunters' pit an extremely primitive corn-cob and a very old type of projectile point. This was what we had been searching for. For the moment, however, excavations had to wait, and a month was spent building roads, cutting brush, hiring laborers and a cook, and establishing supply lines. Finally, on February 1, we began excavation.

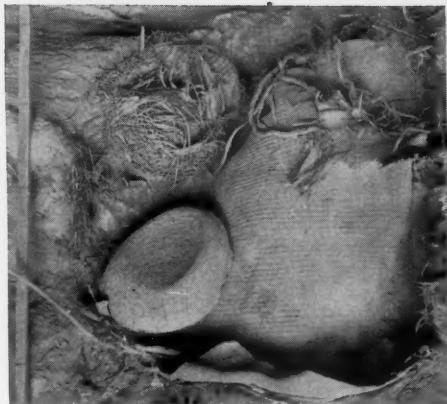
The cave was better than we had dared hope. Excavation revealed a five-foot deposit containing twenty-six thin layers. Thirteen of these layers contained well preserved vegetable material. Evidently this rock shelter

had been occupied at intervals over a five-thousand-year period. Preliminary analysis has revealed a sequence of at least eight different cultural periods.

Since most of this material has not been analyzed and probably will not be completely studied for a number of years to come, I can but briefly describe what was uncovered. The earliest remains, just above the gravel floor of the cave, were those of primitive food-gatherers without pottery and without agriculture. They did, however, use baskets, primitive checker-woven mats, string made of cactus fibers and leaf-shaped dart points of flint. These earliest people seem to have developed into those who domesticated squash and beans, though most of their diet still was composed of wild food plants. From this second group, we have a large assemblage of mats, baskets, string, nets and wooden tools as well as flint projectile points and scrapers not unlike those of the La Perra culture. Some of these projectile points were still attached by means of string and gum to wooden lance foreshafts. This La Perra-like culture continued to develop through time, and even as we exhumed the materials we could see that they changed into another type of cultural complex. But the greatest change came with the people of the fourth cultural period, who possessed maize. This corn, though superficially like the Primitive Nal-tel types, is genetically very different. It is, instead, the Bat Cave type of corn, an extinct primitive maize first found in New Mexico and dated by Carbon 14 as 5,600 years old (Mangelsdorf and Smith, *Journal of Heredity* 40, No. 2, 1949). Dr. Mangelsdorf believes that this corn is an early highland adapted maize while the Primitive Nal-tel (and present-day Nal-tel) is lowland adapted. The Bat Cave type is, however, more primitive than the latter in that each grain of the cob and its associated five leaves are attached to the main *rachis* (the cob core) by a small stem. An exact dating for the appearance of this corn in the cave is at present not established. Dr. Mangelsdorf has suggested, however, that it is perhaps earlier here than in New Mexico. This fourth occupation in our cave seems to have been a very long one, and in the later part of it a "family" was buried in the back of the cave. This family consisted of an adult male and a female buried facing each other with their arms and legs interlocked. The female had a water bottle made from a gourd near her head, and a skirt of woven net about her hips. Both the male and the female lay on a large woven mat and were covered with another mat which had two baskets placed on it. At one side was buried a child wrapped



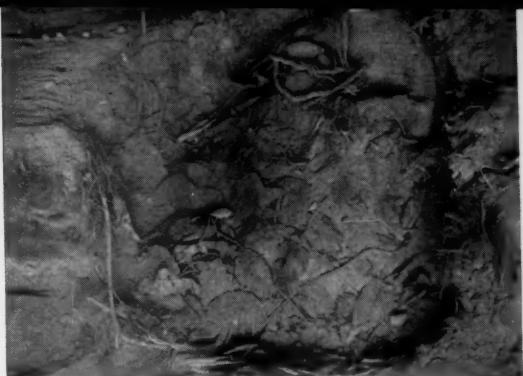
David Kelley next to a wall showing the strata in Romero's Cave.



First burial in Romero's Cave as it was first exposed. Note that the burial is in a pit covered by a mat and with a basket and net.

round and round in mats, with two baskets resting on his head and two very small baskets in his lap.

Over these layers was a thick vegetable layer. Here we uncovered the first potsherds, quite similar to the first ones that occurred in the Sierra de Tamaulipas and to some of the earlier ones at Panuco. Besides large quantities of wooden tools, basketry and string, there were a few fragments of loom-woven cotton with woven geometric designs. Burials occurred in this layer also. The bodies were usually in a sitting position, wound in seven or eight mats which had been tied together by a number of kinds of rope. The dryness of the cave and the protection offered by the mat wrappings combined to preserve these cadavers as desiccated mummies. Spear and dart points differed from those of the preceding periods in that they usually had notches or stems to facilitate their attachment to the shaft. Clay figurines also appeared at this time and it is probable that this group built the first stone buildings in the area. Their diet evidently underwent a fundamental shift, for agricultural products were slightly more numerous than wild plant materials. The maize, although much of it is still related to the Bat Cave type, showed a few cobs of hybrid types. We also found actual grains of a grass called *teosinte* which was probably brought in to be crossed with the corn.



First burial after the outer mat and basket and net were removed. Palm leaves here covered a further bundle of mats.



Palm leaves removed, showing bundle lying on the grass lining of the pit.



Bundle removed showing that it is a series of mats wrapped about a flexed human body and tied with an assortment of rope and string.

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THE UNWRAPPING OF A MUMMY:

The child mummy burial bundle tied up by string. A tumpline may be seen on the lefthand side of the bundle.



The folding back of the first mats after the string has been removed.



The removal of the two top mats with the mummy's back appearing.

The child mummy in flexed position with its arms wrapped around its bent legs, and its head against its knee with face toward the camera.



Above this deep layer of refuse was a stratum of white ash overlaid by still another with preserved vegetable material and artifacts. Here large amounts of pottery occurred, some decorated by lines cut through the polished surfaces after firing. Numerous large side-notched points were found and many of these had serrated edges. Shafts of wood indicated that spears or darts were still being used but one shaft is sufficiently small to suggest that the bow and arrow were making their appearance. Fragments of mats, baskets and bags were still very common and most of these had geometric designs woven in them. Perhaps the most interesting objects found were cigarette butts. The cigarettes were made of small fragments of hollow cane. The smoothed end, the mouthpiece, usually contained some fibrous material that evidently acted as a filter while the other end was stuffed with tobacco and burned. Thus it would seem that filter-tip cigarettes are no recent invention.

Four mummies were uncovered, all interred in the same manner. The bodies and the burial accompaniments had been wrapped in a number of mats and tied together with string; this burial bundle was then placed in a large basket made by attaching a net to a wooden hoop. Attached to one edge of the rim was a small woven tump-line, or head-carrying strap. As yet most of these burials have not been unwrapped and we expect that some of the burial furniture may be most enlightening.

The final two cultures which capped this earlier refuse are much the same. Here pottery seems to be more crudely made and the projectile points are all very small and triangular with or without notches. Shafts from these strata indicate that the bow and arrow were in use. In fact, in the adjacent cave at a comparable level, we actually found a bow. Clay tobacco pipes occurred, as did leaves of tobacco. The diet of these people was mainly corn and there seems to have been little change from the previous period.

Besides this rich cave we excavated four more, but none of these altered the picture we had found in the first cave. In fact, each one confirmed various parts of the

first cave's sequence, and levels from the other caves added considerable information about some of our eight horizons. Furthermore, these new findings seem to confirm and to be confirmed by the sequences established in the Panuco and Sierra de Tamaulipas regions.

Now the final analysis must be undertaken. Not only must the artifacts from each level of each cave be studied, but these materials must be divided into periods and the periods of each cave correlated. Comparisons of these materials and periods in Tamaulipas also must be undertaken in order to establish prehistoric relationships. This will be particularly difficult, as similar materials of the same antiquity do not at present exist in Mexico. These are the usual tasks of the archaeologist in writing his reports; however, with these ancient remains much of the analysis must be done by technicians and not by specialists in archaeology or anthropology. For dating purposes some of the vegetable products must be sent to nuclear physicists for Carbon 14 analysis. Zoologists will study our bone material and perhaps it will take a palaeontologist to identify the very large deer teeth found in our lowest level. The soils will be studied by geologists and palaeobotanists to tell what the climate and flora were during the various occupations. Much of our analysis will have to be done by botanists. They perhaps will be able to distinguish not only the ancient flora but also the change in diets, and perhaps these dietetic shifts may be correlated with advances in material culture. Other specialists, we hope, will examine the corn, beans, squash, cotton and tobacco. Their investigations should throw light on the origin, domestication and evolution of prehistoric American foods. Once all this mass of information has been studied and the conclusions correlated, then perhaps a preliminary statement may be made about some of the developmental stages for a small part of Mexico that lead to one so-called civilized stage. With this, we should at least be able to re-define some of the specific problems concerned with the beginnings of civilization in ancient Meso-America.

• Since the first campaign conducted by the American School of Classical Studies at this pre-Classical site, we have been able to follow the progress of the excavations through a series of informal reports. The first appeared in *ARCHAEOLOGY* 6 (1953) 99-102; the second in 7 (1954) 28-30. This third report brings us the most important results of the 1954 campaign, during which satisfactory progress was made toward the principal objective, the recording of the many strata of habitation deposits, with special attention to the Middle and Early Helladic layers. Underlying Neolithic deposits were reached at a few places. A most unexpected discovery was a large shaft grave of early Mycenaean type, pillaged but historically important. Still more startling is the building described in the accompanying article. Under the general direction of the author, the digging was supervised by Mrs. J. L. Caskey, S. Charitonides, Miss Martha Heath and Miss Helen Vasilou. Lloyd E. Cotsen was surveyor and draftsman. Mrs. Cotsen, Mrs. A. H. Bikaki, Miss Daphne Phylakopoulou and C.W.J. Eliot also assisted.

By John L. Caskey

Director, American School of Classical Studies at Athens

THE HOUSE OF THE TILES AT LERNA:

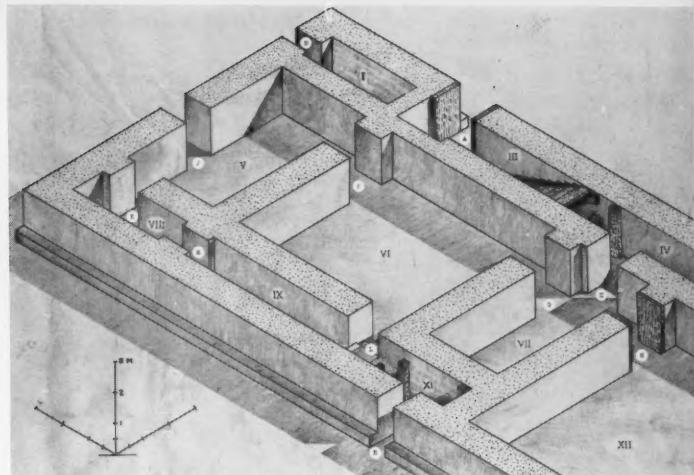


1. The western part of the House of the Tiles, from the north, with a view over the plain toward Mt. Parnon. The round cavities in the walls and floors were left by rubbish pits dug by later inhabitants from ground levels above the ruins of this building.

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2. The ground floor of the House of the Tiles: a reconstruction in isometric perspective, showing the excavated parts of the building as seen from the southeast.

DRAWING BY C. W. J. ELIOT, RENDERED BY R. STILLWELL



AN EARLY BRONZE AGE PALACE

ONE OF THE LARGEST and most impressive buildings of the Early Bronze Age that has ever been found in Greece was revealed at Lerna, in the Argolid, during the summer of 1954. The excavators named it the House of the Tiles, after the thousands of terra-cotta slabs that lay in its ruins. By a lucky chance the southwest corner had been disclosed in an exploratory trench when the first soundings were made in 1952, and during the next year parts of two rooms and a corridor came to light, but it is only now that the general plan begins to be intelligible. We have learned that the total width of the building at its west end is thirty-eight feet (11.75 m.) and we have traced its south side to a length of about eighty feet (nearly 25 meters). The east end lies in still unexcavated ground.

Figure 1 shows a part of the structure after it had been cleared of debris, the walls standing two to four feet high. Exterior walls and interior partitions are three feet thick, composed of crude brick above stone foundations and coated with clay plaster or stucco. The floors of the rooms and the ground just outside the house are also spread with a thick layer of yellow clay. These features of the lower storey are remarkably well preserved; the great fire that destroyed the building, burning the superstructure with its beams and other woodwork, baked the clay and bricks and so prevented them from being dissolved by moisture

in the earth by which they have been covered for three thousand years.

The House of the Tiles is extraordinary not only for its size but even more in the regularity of its construction and the elaborate balance of its plan. At the end of the 1954 campaign enough had been cleared to allow us to draw up the diagrammatic reconstruction shown in Figure 2. In this the principal elements of the ground floor are indicated, the walls being cut off arbitrarily at a height of 1.50 meters.

The principal room of the western part of the building appears to have been the one labeled VI (5.75 m. x 6.30 m.). It is flanked on all sides by smaller apartments, rooms V and VII on the west and east, and corridors III and IX on the north and south. A small narrow room (I) at the northwest corner was accessible only from outdoors. Diagonally opposite, to the southeast of room VI, is a still smaller chamber (XI) which also opens outwards. In its four corners were found evidences of heavy upright timbers. Of room XII, apparently the largest of all, there is as yet very little to say, since only a part has been excavated. Clearly it takes in the combined width of the central apartments and the south corridor. The north corridor, at the place marked IV in the drawing, apparently continues eastward.

One entered the house at the west through door J and

THE HOUSE OF THE TILES CONTINUED

3. Temporary conservation of the House of the Tiles. Stone barriers were built on either side of each wall and the intervening spaces were packed with earth to protect the crude brick and clay against winter rains. Cavities in the floors and walls were filled with fragments of roof tiles recovered in the excavation. At the left, not yet concealed, are three steps of the north stairway.



could pass through communicating doorways to most of the other parts of the ground floor. The north door (A) gave access to a small square vestibule from which a stairway rose eastward within the corridor; the three bottom steps, of solid clay, were found intact (visible at the left in Figure 3), and there were clear traces of the wooden framework that supported the rest of the flight. Just how the upper stairs were constructed is uncertain; perhaps the cross-pieces were only roughly shaped and coated with clay. In any case, this special entrance and stairway provided an approach to an upper storey, where there must

have been rooms of considerable importance.

A second flight of stairs (L) led up through an opening in the wall at the southeast corner of room VI (Figures 1 and 2). This gave means of communication with the second storey from inside the house. Evidently there was a landing in the width of corridor IX, and from this the steps rose either westward (balancing the arrangement on the north) or more abruptly eastward over room XI.

The exterior of the house and the low benches that lay along the base of the walls on north and south were



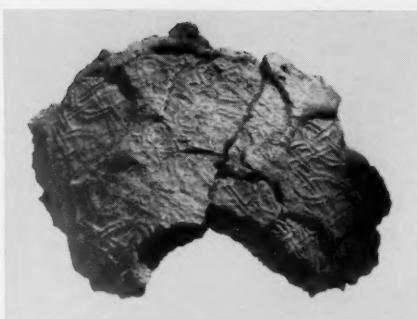
4. A sauceboat, the most characteristic of Early Helladic vessels, found near the House of the Tiles. Height to rim 11 cm.

coated with yellow clay. Inside, most of the wall surfaces were treated with brownish-orange clay and marked with swirling series of grooves, apparently made with a comb-like instrument. A second finer coating of plaster was applied over this rough surface in the vestibule at door A. In room XII the walls were faced with a hard stucco and marked by straight grooves into horizontal and vertical panels. Other refinements noted include the provision for wooden sheathing to cover the jambs of the doors A and H.

Surprisingly little pottery was found on the floors and in the debris of the house. The greatest concentration, including fragments of characteristic sauceboats of the type shown in Figure 4, bowls, ladles, and coarse jars, was in room XI. Here also were recovered more than 150 lumps of clay, hardened in the fire, bearing impressions of seals (Figure 5). The clay had been pressed against the surfaces of wooden and wicker containers, and in some instances into the mouths of pots, and had then been marked, still soft, with multiple imprints of one or two signs. When the lump dried it could not have been removed without breaking; thus it guaranteed that the container had not been tampered with.

The House of the Tiles was not a simple private dwelling of the sort made known by excavations at other Early Helladic sites like Asine, Zygouries, Korakou, and Eutresis. One is probably justified in calling it a palace, though with a clear admission that we have no certain knowledge of the political organization which that word implies. At least we may be sure that the builders commanded great physical resources and much technical skill. Ultimately the sources of this power may become more evident, along with the nature and relationships of the people who possessed it.

The date of the structure can be determined only in relative terms. Two successive strata of Early Helladic habitation deposits have been found above the ruins of the House of the Tiles. Patterned wares, as exemplified by a two-handled cup (Figure 6) and a fragmentary figurine (Figure 7), are characteristic of these latest phases of the period, and the imported Trojan jar illustrated last year (*ARCHAEOLOGY* 7 [1954] 29, Figure 3) must be assigned to the same stage. Our building is earlier than these, belonging apparently to the middle phases of the settlement. At still lower levels are the remains of other houses which yet fall within the limits of the Early Helladic age. Their sequence and extent require further investigation, but we now know that the remarkable askoid jug found in 1953 (*ARCHAEOLOGY* 7 [1954] 29, Figure 2) is assignable to one of them, as are numerous other pots and miscellaneous ob-

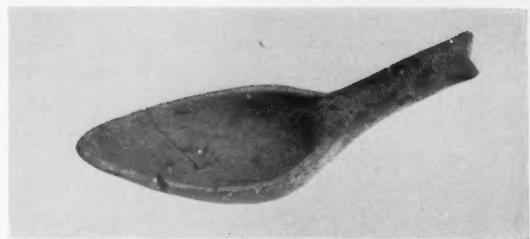


5. Seal impressions on lumps of clay that secured the fastenings of wooden crates. Length 9 cm. to 12 cm.



6. Two-handled cup with patterns in red-brown on a buff ground. Early Helladic period, late phase. Height 11.7 cm.

8. Terra-cotta teaspoon from a group of household utensils earlier than the House of the Tiles. Length 7.5 cm.



jects, including a delicately shaped terra-cotta teaspoon (Figure 8) and a tapering copper blade (Figure 9).

Further excavation will, we hope, reveal the entire plan of the building and some of its neighbors. To protect the remains and leave them on display will be a difficult problem since the ancient brick, though partially hardened by fire, disintegrates when re-exposed to the

elements. Until a permanent shelter can be devised we are obliged to cover the walls and floors after each season of digging (Figure 3), but the monument deserves ultimately to be left open for inspection. More than any other yet found, it leads us toward an understanding and proper evaluation of this remote but exciting period of human civilization.

THE HOUSE OF THE TILES CONTINUED



7. Fragment of female figurine from a late stratum of the Early Helladic settlement. Dark brown to black paint on buff ground. Width 6 cm.



9. Copper blade found with two of the rivets that fastened the handle. Early Helladic period, early phase. Length 18 cm.

STOPPING IN PARIS on my return from Greece in March, 1954, I had the good luck to come across an interesting Greek relief in Ascher's antique shop. Mrs. Suzanne Metthey kindly provided the photograph and gave permission for publication. Nothing is known of the history of the piece except that it formerly belonged to a private collection. Search for previous publication has been futile. We can assume that the piece, which was probably discovered in Greece many years ago, has remained unknown.

By G. A. Stamires

The Institute for Advanced Study

FROM AN ATTIC GRAVE

The relief is part of an Attic gravestone of Pentelic marble. Originally it had the form of a lekythos but in modern times it was cut at the back, which is now flat, and on the left side vertically, for easier transportation. Thus only part of the original curved surface is left. Along the left side also a narrow margin has been cut. The neck, the handle and the foot of the vase were obviously already missing when it was unearthed, since the right edge shows an old break. The relief represents a woman sitting in a chair with back and curved legs, looking to the right. She wears a *chiton* (tunic) and *bimation* (cloak). Her hair is pulled back and fastened with a ribbon once indicated by paint. She rests her left hand on her knees and with her right clasps the hand of a bearded man who stands with his weight on his right leg and the left bent in rest. He wears a cloak which leaves his breast and right arm bare. Part of it hangs from his left shoulder and is held in his left hand.

The scene is a common one in tombstone reliefs and represents a farewell—of a married couple in this instance, we may assume. Other examples may be seen in Conze's *Die Attischen Grabreliefs* (Berlin 1893), Nos. 155-273. No. 155 is a close parallel to this piece. In the face of both figures we clearly see the signs of grief at the forced but unavoidable separation, yet the mourning is restrained and dignified as is characteristic of Attic funerary sculpture. The minds of the two people appear to be concerned with remembrance of past happiness together and anticipation of future loneliness. The beauty of the faces shows that the artist was skilled in delineating features. His skill appears also in the folds of the upper part of the lady's dress. Otherwise the garments are rather roughly represented, but it should be remembered that the sculpture was finished with paint to emphasize details.

Above the lady's head is inscribed in neat letters her name, Zeuxippe. Only two letters of the man's name are preserved above his head. It probably began with Theo-, a frequent first element of compound names. Other possibilities are not excluded but they are far less likely. The dot in the center of the letter *theta* was never cut in order to prevent damage to the surface of the stone in cutting; it was represented instead by paint. The name Zeuxippe is unknown so far in Attica, but it occurs often in Greek mythology. The masculine form Zeuxippos occurs only once in Athens: Zeuxippos of the deme Phyle is mentioned in a list of contributors of money in the year 183/2 B.C. The possibility of restoring the man's name and of identifying him and his wife is remote.

The shape of the letters and the workmanship indicate that the relief is probably to be assigned to the first half of the fourth century B.C.



Fragment of a marble vase (lekythos) which once stood above a grave in Attica. Such vases when complete stand four or five feet high.

• EXCAVATIONS were conducted at Caesarea from May 29 to September 28, 1951, with a short interruption (July 22 to August 5). The author was in charge in the field during the first part of the campaign. He was assisted by Dr. Maximilian Kon as architect and by A. Shulman, M. Prausnitz and E. Goldstine. During the second half of the campaign Mr. J. Leibovitch of the Department of Antiquities took charge of the work under the general supervision of the author and assisted by Messrs. Shulman and Goldstine.

Excavations at Caesarea Maritima

By S. YEIVIN

Director of Antiquities, Israel

IN THE YEAR 22 B.C. King Herod I began to build on the coast of Judaea a magnificent city and a deep-water port. On this site there had long been a harbor and town, called Strato's Tower after the king of Sidon who had built the roadstead, but the town had fallen into a state of decline.

Twelve years after the inauguration of Herod's work, amidst splendid celebrations and much public rejoicing, the city was named Caesarea and its port Sebastos (Augustus). In order to differentiate between this Caesarea and other cities of the same name, it was called variously "Maritima," "Caesarea on Sebastos," "Caesarea of Strato," "of Judaea," "of Palestine." The site for the port was well chosen in view of its excellent communications with Galilee and with Judaea through the maritime road. Herod's city was renowned for its size and for its many magnificent public buildings. Soon it became the largest city of Judaea and, after the institution of direct Roman rule, was made the capital of the province. Today it is one of the important archaeological sites in Israel.

In March, 1951, the Department of Antiquities of Israel was notified by its local guard that a tractor clear-

ing stones from a field within the area of ancient Caesarea had revealed a large headless and armless statue of porphyry seated on a granite chair. The first impact of the tractor had overturned the statue (Figure 1) and slightly displaced the chair as well. The statue was immediately righted by the driver with the help of some friends, but they could not replace it exactly in its original position, and for some time it remained seated askew.

The Department of Antiquities at once decided to investigate the spot, with a view to uncovering the building complex in which the statue seemed to be situated. This decision was further strengthened when about a month later a marble torso of a second statue over life size was accidentally uncovered nearby only a few centimeters below the surface. In order to insure the possibility of moving the giant statue by mechanical means, if need should arise later, excavations were restricted to the areas north and south of the complex, which began to take shape very soon after the start of actual digging.

The whole area of ancient Caesarea was not only tilled for generations but also served as a major source of supply

for building and road-making material. Stone hunters in later years were not content with surface plundering but used to dig quite deeply for good stones. It was not surprising, therefore, to find that the remains of the top-most layer of buildings had almost entirely disappeared, leaving only stray bits of walls here and there, which no longer showed any recognizable building complexes. It finally became clear that this part of the vast area of Caesarea was abandoned at the time of the Arab conquest in the seventh century. The ruins, which became partly silted with wind-blown sand, were later occupied by settlers in the eighth and ninth centuries, as testified by pottery and some lamps (Figure 2). Building remains of this period were few and most of them are not yet fully investigated. It seems that this settlement suffered gradual decay and was superseded by one of the Crusader period, as attested by Mameluke pottery (Figure 3).

At a depth of some three meters below the present surface was uncovered a complex of the Byzantine period comprising a large court (Figures 4, 5) paved with bits of re-used marble slabs, undoubtedly spoils of earlier structures within the area of ancient Caesarea. On the west and east this courtyard was bounded by walls built of a local stone called *kurkar*. On the north side of the court was a triple entrance (to a large room?) formed by

two gray marble columns standing on bases which did not fit them, both placed on a narrow stylobate of small limestone blocks. A profiled cornice, of which fragments were found, probably crowned the antae of the north wall flanking the entrance. This entrance must have been spanned by three arches, for some voussoirs and one keystone were found in the debris inside the space north of it.

Flanking the entrance and facing each other were two seated statues. In the northeast corner was uncovered the porphyry statue of a man dressed in tunic and toga, headless, armless and legless, seated on a gray granite chair placed on a heavy slab of the same granite (Figure 6). The whole was based on a socle (smaller than the slab of granite under the chair) built of *kurkar* stones. The statue was obviously already mutilated when put up in this courtyard, since its lower part was propped up by a fragment of marble. Similarly the granite chair was not its original seat, since part of it was broken away (Figure 7) to fit it to the statue, which has a gap in the middle of the drapery on the left side to prepare it for a seat with a hand-rest protruding upward. The head, which may have been fashioned in some other stone or material, has disappeared, but a slightly raised border around the neck enclosing a flattened surface prepared to hold the head in place shows that it was made separately.



1. The porphyry statue as accidentally overthrown by its discoverer.

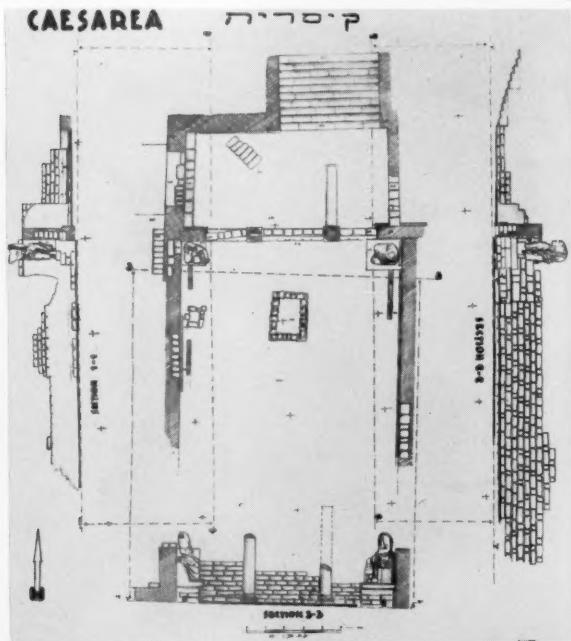


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FIGURES 2, 3, 5, 8, 9, AND 10 BY HELENE BIEBERKRAUT



3



4

Excavations at Caesarea Maritima continued

2. Lamps of the early Arab period (eighth-ninth centuries) found in the top-most stratum at Caesarea.

3. Fragment of a Mameluke jar with a decorated strainer in the neck.

4. Plan of the area excavated at Caesarea during the first season's work.

5. General view, looking north, of the Byzantine monumental court with columns and statuary.

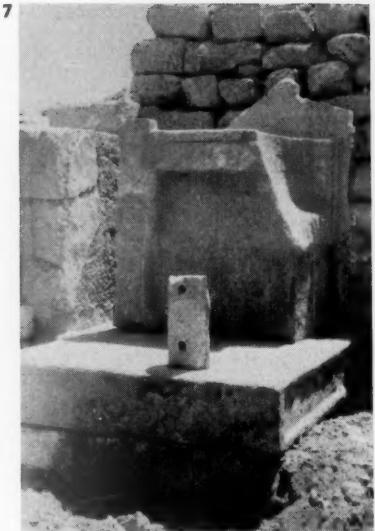
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tenons of these parts were to be inserted. The statue portrays a man wearing a *bimation* draped in folds over the lower part of his body and enveloping his left shoulder and arm, while leaving exposed the right shoulder, the chest, the upper abdomen and the right part of his back. On his feet are thonged leather sandals which leave the toes exposed (Figures 9, 10). The west wall of the courtyard back of this statue was largely broken up, and it seems that this was originally done to permit the insertion of the statue there. Part of the ornament of the chair in the left foreground was found broken off.

As already stated, the statues flanked a tripartite entrance into a space north of the courtyard, paved in mosaic of largish white tesserae inlaid with designs of large black squares showing a small geometric pattern in red tesserae in the center of each square. Under the pavement was a drain covered with large stones, which led diagonally across the room to a cistern situated outside it on the

northwest. In the west wall of this space is a wide doorway with a large marble sill, probably re-used, leading into a room originally also paved in marble. The east wall of this space was very largely ruined but there were signs of a corresponding wide doorway (without sill, but on a somewhat higher level) leading into a room (?) to the east. Of the north wall only one to two courses of its western half remained *in situ*. Beyond it, to the north, lies the cistern. Next is a broad flight of ten shallow steps leading upward (Figure 11), and this extends almost to the northeast corner. In front of the steps, running the full width of the staircase, is inlaid in the mosaic floor a *tabula ansata*, picked out in a border of black tesserae enclosing a Greek inscription of six lines (Figure 12). The letters are done in black tesserae, the lines of the inscription are divided by straight lines of white tesserae, and the background is filled in with white tesserae running in various directions. The inscription, which describes the erection of "the apse, the wall and the stairs"

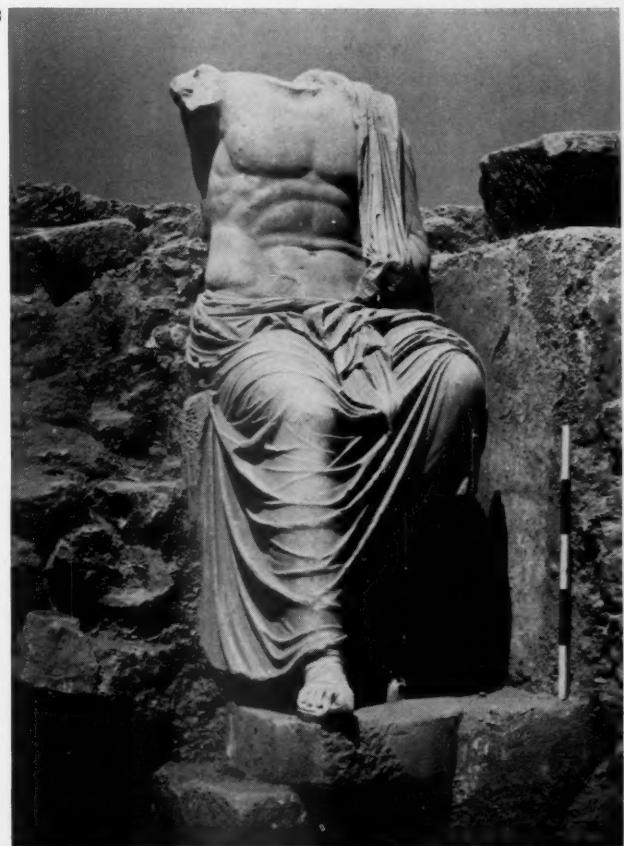
Excavations at Caesarea Maritima continued

out of public funds by the mayor (?) of the city under the Governor Flavius Entolius in the Xth indiction, gives the name of a previously unknown governor of the province. Since no year of some era is given which would help to fix the time of the indiction, it is impossible to date this inscription exactly, but palaeographic considerations seem to point toward the end of the fifth or the beginning of the sixth century. This dates the building complex. The statuary is, of course, considerably

earlier. The marble statue seems to belong to the second or third century, while the porphyry statue apparently represents a Roman emperor of the third or early fourth century.

The stairway leads up to a long area some 1.50 meters higher than the floor of the room containing the inscription, and this is paved with the same style of mosaics as the lower room. About eight meters wide (west-east), it stretches north for some twenty meters to the limit of

6. The porphyry statue after the cleaning of the base and the righting of the chair and the statue. The perforated white marble fragment under the leg of the statue had been placed there in ancient times to prop it up. On the left leg of the chair (in shadow) is the head of Medusa in relief.
7. The granite chair, righted, after removal of the statue.
8. The white marble statue, its torso restored to the lower part of the body.



Excavations at Caesarea Maritima continued

the excavation. A test pit dug some eighty meters to the north revealed a similar mosaic pavement at the same depth and having the same orientation; therefore we assume that this paved area is a street.

Only one course of stones remained along the western border of the area; this may be the remains of "the wall" to which the inscription alludes. The eastern part of the paved yard is covered by a maze of later Arab walls, all badly ruined, among which one can see, here and there, the remains of the original wall that bordered the paved area on the east. At one place east of this wall begin to emerge traces of an apse opening to the east, probably not "the apse" mentioned in the inscription. That may refer to the domed roof originally built over the room containing the inscription. "The stairs" to which the inscription alludes are quite obvious.

At some later date the doorways in the west and east walls of the room containing the inscription, as well as the *intercolumnium* and the openings between the columns and the antae, were sealed by partitions of *kurkar* stones taken, in all probability, from this Byzantine building itself, which must have already been ruined, for a large mass of fallen stones was found in the southwest corner of the inscription room at a level lower than the tops of the partitions.

The clearance of the courtyard to the south has not yet been finished. Here again scanty remains of later Arab buildings were found, with a fragment of a stone paved courtyard (?) in one spot, typical of the early Arab layer (seventh-ninth centuries) at Beth-Yerah. The east wall of the Byzantine courtyard continues up to this pavement, but an investigation to a corresponding depth south of the pavement failed to reveal traces of it. It seems, therefore, that the southeast corner of the courtyard lies somewhere under this pavement. The clearance of this Byzantine complex is to be continued in the future.



9. Left foot of the marble statue, showing details of the sandal.

10. Right foot of the marble statue, showing details of the sandal.



11. Broad flight of steps with mosaic inscription at its base, leading perhaps to the street.



12. Mosaic floor with inlaid *tabula ansata* containing the six-line Greek inscription.



*Highlights of
the Autumn issue of*

ARCHAEOLOGY

THE ORIGINS OF THE ART OF KNITTING

by Milton N. Grass

THE SHANIDAR CHILD—A PALAEOLITHIC FIND IN IRAQ

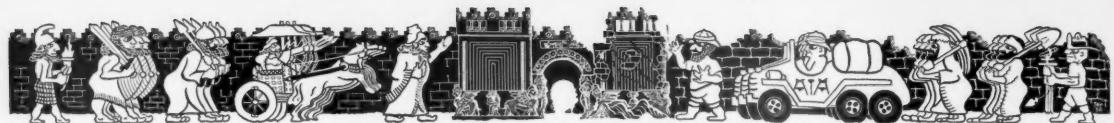
by Ralph Solecki

BALL COURTS AND BALL GAMES OF MIDDLE AMERICA AND ARIZONA

by Albert H. Schroeder

BY THEIR MAPS YOU SHALL KNOW THEM

by William H. Stahl



ARCHAEOLOGICAL NEWS

Obituaries

SETH T. GANO, who died on February 3, 1955, at the age of 75, was for many years the treasurer of the ARCHAEOLOGICAL INSTITUTE OF AMERICA.

IDA THALLON HILL, for many years closely associated with the American School of Classical Studies at Athens, died suddenly on December 14, 1954, on her way back to Greece. Mrs. Hill was perhaps best known for her studies on the topography of Athens.

SIR ARTHUR KEITH, eminent anatominist and anthropologist, famous especially for his studies on the antiquity of man, died on January 7, 1955, in his eighty-ninth year.

ALFRED MARSTON TOZZER, professor emeritus of archaeology at Harvard University, a leading anthropologist and archaeologist in the Middle American field, died October 5, 1954, at his home in Cambridge.

WILLIAM LINN WESTERMANN, professor emeritus of ancient history at Columbia University, died on October 4, 1954. Professor Westermann was an authority on ancient economic problems, particularly for Ptolemaic Egypt.

The American Anthropological Association

(We owe the following report to Dr. J. Alden Mason of the University of Pennsylvania.)

The fifty-third annual meeting of the American Anthropological Association was held in Detroit, December 28-30, 1954, at the invitation of the University of Michigan. All meetings were held in the Horace H. Rackham Educational Memorial. The Society for American Archaeology, the Central States Anthropological Society, the American Ethnological Society, the American Association of Physical Anthropologists, and the Society for Applied Anthropol-

ogy were co-sponsors. Morning and afternoon sessions were held, and at most times four sessions were running contemporaneously. Three hundred might be reckoned as the attendance.

An anthropologist of the old school would consider a large percentage of the papers as sociological or psychological, and there were relatively few presentations of archaeological or ethnographical data. Only three of the twenty-three sessions were devoted exclusively to archaeology, with twelve announced papers and a round-table discussion; five archaeological papers were given in other sessions.

One of the sessions on the second afternoon was devoted to American Archaeology, with Emil W. Haury as chairman. Irving Rouse led off with a paper on "Archaeological Similarities between the Southeast (U. S.) and the West Indies." Strange to say, the best evidence for contact between these two areas is on the early Archaic level, both regions showing the same unusual types of burial mounds and shell gouges. On later horizons contact seems unlikely; resemblances between the Southeast and Mexico are closer than those with the Antilles. William C. Sturtevant followed this with an address on ethnological similarities between the same areas; only six out of the fifty suggested items of resemblance are even arguable.

"The Early Periods of Cohonina Prehistory" were outlined by Douglas W. Schwartz. This is a little-known area of 3600 square miles in the region of the Little Colorado and Cataract Creek in Arizona. The people were different from both the Anasazi and the Hohokam; they occupied the area from about A.D. 600 to 1200; after that it was abandoned. The depopulation may have been due to incursions of nomads.

The 1954 excavations of an expedition from Southern Illinois University to "The Schroeder Site, a North Mexican Site of the Chalchihuapan Culture"

was described by the leader, J. Charles Kelley. The locality is in the suburbs of the city of Durango, a habitation site on a hillside with a ceremonial structure at the summit. It was probably the first careful, controlled excavation of a site of this little-known culture since that at the type locality of Chalchihuapan over forty years ago. The period is probably Post-Classic, of the Tula-Mazapan era.

"Preliminary Results of Archaeological Investigations in British Guiana" were reported by Clifford Evans, Jr., and Betty J. Meggers (Mrs. Evans). Careful stratigraphical excavations were made in four separated regions and cultural sequences worked out. The great differences in these show that Guiana is not a focus of culture but a melting pot, a refuge area in late times.

Carol K. Rachlin spoke on "The Relationship between Twined Textiles of Modern American Indians and Prehistoric Middle Mississippi Culture." Studying the twined textiles of some of the former peoples of the Mississippi Valley, as evidenced by their impressions on pottery, she finds them to be an interesting type of open-work twine with diverted warp, a non-loom technique, which is apparently older than the Middle Mississippi period of A.D. 1200. The technique is not found among modern Indians of this region, though resembling the diverted-warp weave of Fox open-work bags.

The oldest known American skeletal remains were described by Fred Wendorf in a paper by him and Alex D. Krieger entitled "Pleistocene Human Remains from Midland, Texas." The highly fossilized and nearly complete cranium and rib were found in February 1954, in a deposit in association with remains of elephant, camel and horse, and are identified by T. D. Stewart as those of a female of about thirty years of age, described as a small person with a cranial capacity below average, and very long-headed. Somewhat

different from the Tepexpan skull, it resembles more the crania from West Texas found by C. N. Ray. The now perfectly arid site was apparently at that time the shore of a small lake on which a group of hunters lived or camped. All the evidence, archaeological and geological, indicates that the period was before the days of yet-to-be-discovered Folsom man.

Another session on Wednesday afternoon was devoted to a round-table discussion on "Prehistoric Cultural Change in the Great Lakes Area" under the chairmanship of James B. Griffin. Emerson F. Greenman, Thomas E. Lee, Richard MacNeish, William J. Mayer-Oakes, George I. Quimby, William A. Ritchie and several others took part in the discussion, which concerned mainly the very earliest phases and their relations to the Glacial period and climate, Lake Agassiz, etc. No speaker expressed any doubt that the region was inhabited when much of eastern Canada was covered by glaciers.

A session on "Settlements and Society, a Symposium in Archaeological Inference" was held on Thursday morning, December 30, with the co-sponsorship of the Society for American Archaeology and under the chairmanship of Gordon R. Willey. The first paper was by Emil W. Haury on the Southwestern United States (on which no report is at hand).

The Southeastern United States was then taken up by William H. Sears who traced the development in that region from simple temporary camp sites of hunters, fishers and gatherers in the earliest period to the large planned towns of the numerous population in the last period. The steady increase in population was of course due to the introduction of agriculture, of new crops and of more efficient methods of cultivation. The village stage was represented by Adena and Hopewell, the town stage by Etowah and Moundville.

The settlement patterns of Lowland South America were outlined by Betty J. Meggers in her paper with Clifford Evans, Jr., though their data were confined to the region of the lower Amazon. Due to the climate, no trace is left of earlier non-pottery-making cultures. The people fall into two main groups, the river and the inland dwellers.

Edwin M. Shook and Tatiana Prokouriakoff described the settlement patterns of Middle America, the paper be-

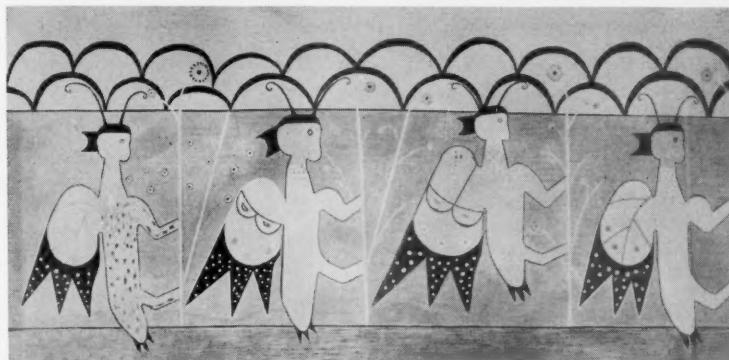
ing read by the latter. The area is so large and consists of such different ecological regions that few universal statements can be made; the Maya are taken as a typical people and the study based on the highland Maya of Guatemala. From earliest times the Maya apparently lived in towns. In the Pre-Classic period (2000 B.C.—A.D. 200) there was a steady growth of population which reached its maximum at about 500 B.C. In the Classic period (A.D. 200-900) were founded and abandoned towns consisting of nuclear centers of ceremonial public buildings, the people living on the periphery. The Post-Classic period (A.D. 900-1500) saw the rise of militarism and a cultural decline.

This session closed with the paper by Alfred Kidder II on Peru. Most of our data on Peruvian settlement patterns come from the northern coast, and for the other very varied ecological regions they are scant, inferential or speculative. Information on the early nomadic hunting peoples is almost nil; the first known population is that of Huaca Prieta of about 2500 B.C., a small group on the shore, primarily fishermen with an orientation toward beach and sea, but with a rudimentary agriculture. After the introduction of corn and pot-

tery the coastal river valleys began to become more densely populated and houses were built of adobe mud. In the Formative period irrigation was introduced, the population increased greatly, wars began, and fortifications were erected as well as great ceremonial substructures for temples. The population approached its maximum in the Florescent period with large planned cities and evidence of great civic control over the lives of the people. The highland cities such as Cuzco differed considerably from the coastal cities in detail but were similar in general nature.

The papers presented at this symposium were briefly discussed by E. Z. Vogt.

Five other archaeological papers given as parts of other sessions are reported only by title. F. Clark Howell spoke on "The Australopithecines" and J. C. Harrington on "Archaeology as an Auxiliary Science to American History." "The Two Systems of Agriculture in Inca Society" were discussed by John V. Murra and "The Subjective Element in Archaeological Inference" by Raymond H. Thompson. Angel Palerm and Eric R. Wolf described "A Preliminary Survey of an Irrigation System near Texcoco, Mexico."



Wall Paintings at Pottery Mound

The University of New Mexico conducted its 1954 Archaeological Field School at the excavations of Pottery Mound. This site consists of three or more superimposed pueblos in the Puerco Valley, southwest of Albuquerque. The 1954 excavations revealed a stratified sequence of cultures from Pueblo III through the Middle Glaze

Period of Pueblo IV. A rectangular kiva was excavated, with wall paintings still intact. On the east, south and west walls the paintings consist of masked and kilted figures, but the north wall is painted with the earth below and the clouds and heaven above. Four large grasshoppers or cicadas are represented climbing up flower stalks from earth to heaven. The whole is brilliantly and skilfully rendered in four colors.

Ashkelon Conference

A city of the Philistines in Biblical days, Ashkelon (or Ascalon) was recently the scene of the Tenth Annual Convention of the Israel Exploration Society. This conference, which lasted from October 13th to 16th, 1954, was attended by more than one thousand individuals, largely amateurs of archaeology. Each year a similar convention has been held in a different part of the country, and each has had a theme related to the area in which the meeting was held. The theme of this year's meeting, appropriately "Philistia and Judaea," was carried out in most of the papers read during the six sessions. The large auditorium of the new civic center of Ashkelon, itself founded only three years ago on sand dunes north of the ancient site, could not contain the whole audience, which spread out over the adjacent court. The speakers were, with some exceptions, archaeologists or specialists in related fields, on the staff of the Hebrew University and the Department of Antiquities.

At the first session the President and the Prime Minister of the State of Israel were present, as well as other notables. Prof. B. Mazar, President of the Hebrew University, delivered the opening lecture, "The Philistines." At the second session Saul S. Weinberg, of the University of Missouri, spoke on "The Beginnings of Aegean Civilization," N. H. Tur-Sinai discussed the Lachish letters, and M. Avi-Yonah presented a paper on "The Coastal Towns in the Roman Period." At the third session A. Malamat spoke on "The Kingdom of Ashkelon in Bible Times," J. Kaplan on the city of Ashdod, and H. Tadmor on "The Assyrian Campaign against Ashdod." The fourth session included an address by I. Ben-Zvi, President of Israel, on "The Samaritans in the Coastal Towns." At the fifth session Y. Aharoni discussed "The Way through the Land of the Philistines" and Trude Dothan, "Philistine Pottery." The final session of the convention was occupied with a series of illustrated excavation reports: Jean Perrot on Beersheba, M. Stekelis on the Kabbara Cave; N. Avigad on Beth She'arim; M. Dothan on Nahariyah; and Y. Aharoni on Ramath Rachel. All these excavations are currently being conducted; some of the objects shown in slides had been found only a few days

previously. There were also reports on the geology, history and other aspects of the region, not strictly in the field of archaeology.

All the lecture sessions were held during the afternoons and evenings; the days were taken up with organized excursions to numerous archaeological sites in the vicinity. One day's trip took the conference members (in three sections, about three hundred in each section) to Lachish, Beth Guvrin and Maresha. Another excursion included Ashdod, Yuval-Gad, Yavneh, Yavneh-Yam and Negbah. There were also conducted tours to the site of ancient Ash-

kelon, a huge mound which has been only slightly excavated—first by Lady Hester Stanhope, who looked for treasure there in 1815, and secondly by Prof. John Garstang in the 1920's. Some eighteen feet of Roman debris over the earlier city has discouraged extensive reconnaissance. Among the interesting finds made thus far are sculptured pieces (see illustration) and a beautiful frescoed Roman tomb.

The conference as a whole was interesting not only because of its archaeological content but as a testimonial to the widespread interest in the subject which is evident in Israel.



Left: An excursion group hearing a lecture on ancient Lachish before ascending to the site. *Right:* Sculpture and architecture excavated at ancient Ashkelon.

What About Latin?

This is the title of an attractive twelve-page guidance pamphlet recently published for use by advisers in our secondary schools. It was prepared by a special committee of the American Philological Association and is sponsored also by the American Classical League and the various Classical Associations throughout the country. It should reach the hands of every adviser of students in our secondary schools.

Any high school teacher may send three-cent stamped *long* business envelopes to the Service Bureau of the American Classical League, Oxford, Ohio, with each envelope addressed to a counselor in her school. No limit is placed on the number of envelopes as long as each is addressed to a counselor. The pamphlet will be enclosed and mailed direct from Oxford. This is an opportunity for the individual teacher of Latin to promote the cause of Latin with very small expenditure.

The Rhind Lectures in Archaeology

The Rhind Lectureship in Archaeology through a bequest to the Society of Antiquaries of Scotland has provided since 1904 an annual series of six lectures. The 1954 series, which took place in late November and early December at the National Museum of Antiquities of Scotland, Edinburgh, was delivered by H. J. Plenderleith, Keeper of the Research Laboratory, British Museum, and Professor of Chemistry, Royal Academy of Arts, London. The subject of the series was "The Scientific Laboratory in the Service of Art and Archaeology." The first lecture was on the preservation of metals, while the second dealt with the preservation of some other materials, such as stone, pottery, ivory and wood. The scientific control of atmospheric conditions was the subject of the third lecture, with reference to the effect of environment on museum objects. The fourth treated the problems of preserving prints, books and pictures, and described the laboratories of the National Gallery in London, the Brussels Laboratory and the Laboratory of the Fogg Art Museum of Harvard University. The fifth lecture dealt with the fascinating search for archaeological evidence through microscopy, spectrography, fluorine and phosphate analysis, the use of radio-isotopes and application of the radiocarbon method for estimating the age of materials of organic origin, and with the reconstruction of antiquities. The last lecture was on fakes and forgeries and gave the case histories of some famous fakes. It is greatly to be hoped that the 1954 Rhind lectures, like many of the series, will achieve publication soon.

Phidias' Statue of Zeus

One of the Seven Wonders of the ancient world was the gold and ivory statue representing Zeus, father of the gods, which Phidias created to stand in the huge temple at Olympia. Held in highest esteem for his many sculptures, Phidias was thought by his contemporaries to have reached the culmination of his career in this great work of art. The figure is known to have been constructed of beaten gold sheets, with the flesh parts made of ivory. In the fifth century of our era the statue was carried off to Constantinople and there it

was destroyed in a fire, so that it is chiefly from representations on coins that we know how it looked.

It was not expected that much more could be learned about the famous statue by excavation, since it had been removed from the site so long ago. During this season, however, the excavators of the German Archaeological Institute have made a unique and remarkable discovery. Digging in a building of the Classical period which lies west of the Temple of Zeus, adjoining the structure which has generally been identified as Phidias' workshop, they came upon a large number of molds. These molds, which are of various sizes, many not much larger than a man's hand, are made of clay, rather thick and heavy, and some are reinforced on the back with iron bars. The molds are finished all round by a raised clay border. Their interesting feature is that in each mold a bit of drapery is represented. Even though the molds are large, each includes only a few folds of what must have been a very large garment. Dr. Emil Kunze, Director of the German Institute, has ingeniously conjectured that these molds were made especially for beating out the thin gold sheets which formed the drapery of the statue of Zeus. Gold is the only metal which would have been soft enough to hammer into a clay mold.

Dr. Kunze's theory is corroborated by the finding of many ivory scraps in the same area. By studying these and the clay molds we may eventually know much more about the construction of the huge chryselephantine statues which were the pride of the ancient Greek world.

Congress of Christian Archaeology

(We owe the following report to Dr. Avi-Yonah, who attended the Congress as the representative of Israel.)

The fifth International Congress of Christian Archaeology was held at Aix-en-Provence (France), September 13-19, 1954. The Congress was organized under the patronage of the Pontifical Institute of Christian Archaeology at Rome, while the actual organization was entrusted to a French committee presided over by Mr. Zeiller, with H. Stern as secretary. One hundred and fifty-two members attended, from seventeen countries, the largest contingents being from France (60), Italy

(39), Germany (17), Spain, Yugoslavia (5 each), and U.S.A. (4). Various Near and Middle Eastern countries sent one representative each. In view of the relatively small number of scholars attending the Congress, it was not organized into sections. The organizers chose two central themes for discussion: the architecture and ornament of baptisteries and the decoration of Early Christian sarcophagi; in addition, a number of reports were read on discoveries made recently in France, Germany, Spain, Yugoslavia, North Africa and in the various countries of the Middle East; these reports were documented by lantern slides and based on mimeographed résumés which were distributed to the members beforehand. In all, fifty-six papers were read in eight sessions, each day of working sessions being alternated with a day of excursions, including visits to museums, churches and excavation sites. Among the important papers were those of Prof. A. Grabar (Paris) summing up the state of research relating to baptisteries, Mgr. De Bruyne (Rome) and H. Stern (Paris) on the ornamentation of baptisteries, R. Krautheimer (New York) on transepts, F. Benoit (Marseille) on sarcophagi, C. Cacchelli (Rome) on Christian iconography. The problems connected with the discoveries under the basilica of St. Peter's at Rome were not directly on the agenda of the Congress, but were nevertheless eagerly discussed in connection with other matters. The reports on new discoveries made in Spain, Germany, Yugoslavia and Israel aroused much interest. It was decided to hold the next (sixth) Congress of Christian Archaeology in Italy in 1959.

"Studies in Conservation"

An important aspect of archaeological work is the preservation of the objects found, and this often requires special technical knowledge. Our readers may be interested to know of a periodical which is entirely devoted to such problems. Called *Studies in Conservation*, it is issued by the International Institute for the Conservation of Museum Objects and published by Thomas Nelson and Sons at irregular intervals. Thus far three numbers have appeared (since 1952) and a fourth is reported to be in press.



BRIEF NOTICES OF RECENT BOOKS

Two Important Mexican Sites

Tonalá, Mexico: An Archaeological Survey, by EDWIN N. FERDON, Jr. xvi, 126 pages, frontispiece, 17 figures, 24 plates, 5 maps. School of American Research, Santa Fe, New Mexico 1953 (Monographs of the School of American Research, No. 16) \$6.00

The remains of the ancient city of Tonalá crown a series of granite ridges overlooking, from an elevation of two thousand feet, the narrow and hot, but fertile Pacific coastal plain in southern Mexico. They are located in the state of Chiapas, below the Isthmus of Tehuantepec, a two-hour jaunt on foot or horseback from the modern town of Tonalá, which is one of the numerous stops on the Vera Cruz-Suchiate railroad. Though the ruins have been known for many years, no comprehensive report on the site has previously been published.

In an introductory chapter the author gives the background for the descriptive text of the report. This includes treatment in detail of the various groups which make up the site of Tonalá, and each structure within a group. Photographs of individual buildings appear with the text describing the particular unit, while plans, sections and elevations are grouped at the end of the volume. The architectural data are summarized after the detailed description of structures. The various monuments include ten stelae of which two bear carved designs; one sculptured and three plain altars; thirteen unclassified monuments of which seven are carved; and three rock carvings or petroglyphs. Some of the stelae and altars were erected at the foot of stairways leading to important temples. The main text ends with an attempt to place Tonalá in the cultural history of Meso-America. There are two appendices, the first containing a glossary of architectural terms, the second recording stone sculptures in the vicinity of Tonalá and, briefly, the nearby and apparently contemporaneous site of La Tortuga.

Ferdon clearly states that his work is a survey without benefit of excavation. He makes the most of carefully gathered data on topography, environs, architecture and sculpture. The architecture is characterized by low substructures supporting non-vaulted buildings. Pyramids are entirely absent as apparently are ball courts. Stairways lack side extensions or balustrades, as they are more commonly termed, and many are partly inset, partly projecting. Paved ramps in place of stairways are more common at Tonalá than elsewhere. Terrace walls are more sloped than normal and commonly bear a wide apron molding or cornice along the top. Terrace corners often are notched. The ashlar masonry is one of the most striking features of Tonalá architecture. The substructures frequently are faced with cut and dressed blocks apparently laid without mortar. No evidence was found of lime mortar or plaster; a weak mud mortar was utilized in rubble masonry walls and core fill.

The sculpture is noteworthy principally for its non-conformity seemingly even to a local style. Its temporal placement as well as that of the architecture within the Meso-American chronological framework is tenuous. As Ferdinand says, Tonalá does not appear to fit comfortably into any of the known traditions. Much of the value of this report lies in making available an accurate corpus of data within an area where Meso-American archaeology has suffered from lack of knowledge.

EDWIN M. SHOOK

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Tlatilco and the Pre-Classic Cultures of the New World, by MURIEL NOE PORTER. 104 pages, 16 figures, 14 plates. New York 1953 (Viking Fund Publications in Anthropology, No. 15) \$2.50

Tlatilco, on the outskirts of Mexico City, has yielded during the last decade quantities of fine figurines and pottery,

unearthed in the course of brick-making operations. Fortunately, controlled excavations were carried out by the Instituto Nacional de Antropología e Historia, and Miss Porter's study is in part devoted to a fine summary of these discoveries. But the fact that her study, in search of evidence of unity, roams far beyond the limits of Meso-America marks this site report as quite unusual.

Tlatilco contained an extraordinary number of burials, many of them richly furnished, as well as clay-surfaced structures and bottle-shaped trash pits. Analyses of artifacts and burials indicate that Tlatilco was a Pre-Classic one-period site dating to Late Middle Zacamenco times. The pottery is remarkable, with stirrup-spouted vessels, straight-necked globular bottles and effigy vessels; its decorative techniques include rocker stamping, zone and panel decoration, excisions, gadrooning and negative and monochrome painting. Other features are long solid tripod supports, annular bases and, on a less concrete level, the feline motif and the concept of dualism. The delightful Tlatilco figurines largely conform to types recognized elsewhere in the area by Vaillant.

The problems of the Tlatilqueños' identity and their relationships with other Meso-American Pre-Classic groups allow no simple answers. Many figurines clearly embody Olmec traits, indicating a link with the lower Gulf Coast region. The effigy vessels implement this suggestion, as they illustrate fauna more lowland than highland, a point made by Philip Drucker in a recent study of Olmec-La Venta archaeology.

Certainly the most intriguing and perhaps most controversial feature of this report is its distributional analysis of the Tlatilco data. This amounts to a fine summary of Pre-Classic remains in Meso-America, the American Southwest and the Andean area. Outstanding in the incidence of traits noted at Tlatilco are some similar to the Playa de los Muertos remains in Honduras and those comprising the Chavín Period of

Northern Peru. In the latter, for example, one finds the feline motif, dual representation, excision, zone and panel decoration, rocker stamping, as well as frequent stirrup-spouts, all rare traits elsewhere at this time. In regard to Playa de los Muertos Miss Porter writes (page 65): "The numerous specific resemblances to the Tlatilco complex are startling." While certain of these traits do occur in the Guatemala Highlands and even the Southeast, at no other Pre-Classic sites do they add up as impressively as at Tlatilco, Playa de los Muertos, and Northern Peru during Chavín times.

It is one thing to note resemblances between widely separated regions and another to account for them. The author speaks of complex diffusion, trade, historical connection and actual contact, thus apparently favoring cultural interchange on a Pre-Classic level. While this conclusion may not be overly illuminating, Miss Porter's trait assemblage nevertheless adds considerable substance to any discussion of cross-cultural similarities. Her careful study is relevant to the growing interest in Pre-Columbian growth trends and epochal parallelism. Her well illustrated summary of Tlatilco is an important contribution to the local but still very large Meso-American scene.

WILLIAM R. COE

University Museum
University of Pennsylvania

Evolution of the Human Mind

The Primitive World and its Transformations, by ROBERT REDFIELD. x, 185 pages. Cornell University Press, Ithaca, New York 1953 \$3.50.

This book pleases and stimulates by its good writing, its speculation and a solicitude for the human race. The six chapters are an exposition of what we know about evolution in human mentality rather than physical form or technology. Over the past seven thousand years is there valid evidence of a primitive folk mentality? Are changes effected by the coming of civilization? Do civilizations have mentalities and laws of growth? Is there absolute progress in the moral order? This book answers each question with a cautious, qualified yes.

Deductions are drawn from the past's archaeological record of technological factors and from the present's

ethnological record of social traits, each supplementing the other. It is a basic assumption that modern surviving primitives, though changed by civilization, possess substantially unaffected thoughts, beliefs and methods. Evidence from modern primitive communities may thus apply to the ancient precivilized. Since Upper Palaeolithic times precivilized communities probably had similar balanced technical and moral orders. They were small, isolated, self-reliant, essentially homogeneous settlements, each with group solidarity, traditions, moral convictions and common understanding about the ultimate nature and purpose of life. Specialists and speculative individuals must have been rare and less set off from the commonality than under civilization. Only with the food-producing and urban revolution do they develop.

Precivilized folk, after the impact of civilizations, tend either to remain relatively independent as adjusted peripheral enclaves with intact moral order or as unadjusted reactionaries, or else are absorbed as partners. All have been somewhat remade by towns whose literati, intelligentsia and proletariat are new social types, producing another mentality and reaching out for support to outlying communities. This has produced the peasant with a mentality which takes economic, political and moral account of the city but balances moral and technical orders by preserving a personal, familial and commun-

ity orientation. Danger of a crumbling moral order always lurks in wider contacts, in migrations and among expanding civilizations. Moral orders decay but may reform.

A "style of life" or "basic culture pattern" exists in this flux for the peasant folk community but it is not for the uprooted tribe, whose career line and continuity are lost. Culture, style of life, national character and world view of the ancient and modern primitive are less disturbed than among the civilized. Who knows how a Chicagoan or a Londoner views the world?

The primitive world view is remade by reflective minds, though the seeds of much are undoubtedly present in ancient primitive and early civilized stages. Cases of native thought from Maori, Mayan, North American and West African communities are described and properly qualified as to reliability. This humble suspicious archaeologist-reviewer may even outdo the author in feeling uneasy about the supposed untouched nature of the evidence. All these regions are still suspected of being influenced, indeed peopled, relatively late from areas of pre-existing high civilizations: Polynesian culture has affinities in parts of Asia; the Mayan and much of America have similar root links; and the West African is suspect, so close to Egypt and Arabia. The twentieth century ethnologist should join the archaeologist in trembling like a leaf before substanti-

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ated reports of Hebrew, Greek and Arab coins found in South Africa, a mug stamped with the arms of Richard the Lionhearted in a West African tribal treasury, and that infamous nineteenth century Russian kopek disgorged from a North African prehistoric grave. If things fly about so, why not ideas? The author is aware of this when he characterizes the data as limited and unreliable.

The picture of the trends is devastating: primitives in ever dwindling numbers; communities unconsciously distorted; man exploiting matter to gain material comfort as a paramount aim. Yet there is hope, it seems, that the moral order of tribes or nations flourishes as society is isolated; and since disparity with the technical order rather than civilization as such is the enemy, perhaps a world community created by a technical order can regain a moral order. New religions, ethical teachings, concepts of peace and the dignity of man grow amid moral breakdown in contrast to earlier failures to force moral advance amid persisting moral order.

In the end, there is actually evidence that the human race is growing up. We, especially anthropologists, do appraise primitives by different standards than ourselves. We judge by success in acting according to chosen ideals. The author frankly faces the fact that the anthropologist must admit to being human and participant in a civilization. Thus, while cleaving to rules of objectivity, let him value others as his predilections lead; but let his work be supplemented by that of others who have other tastes. Admit a double standard of ethical judgment as part of cultural relativity.

BRUCE HOWE

Peabody Museum
Harvard University

Greek Philosopher

Socrates: The Man Who Dared to Ask, by CORA MASON. xii, 165 pages, 10 plates. The Beacon Press, Boston 1953 \$2.75

If we criticize this book from the scholar's desk we will do it a wrong—"being so majestic." For it is obviously what Miss Mason intended it to be—a book for high school (in this naughty generation I fear for college) students; but we who have made our

acquaintance with the Athens of Socrates can find as much pleasure as the embryo student in our particular experience of recognition. Miss Mason has presented an imaginative, but I think authentic, picture of the boy Socrates, and for his later life, where sources have been available she has used them without dusty scholarship and with evident charm. Without undue emphasis she has made patent the real parallel of long ago to nowadays, and as we see the emerging of the heroic from the everyday, we must sigh with her for another Socrates.

The great value of this book will be, of course, to teachers who will find it an invaluable aid as an introduction for students to Socrates, to Plato, to the splendid and bad men of the fifth century in Athens, to the whole of that period from which so many of our disciplines have come. The suggestions for pronunciation will be a godsend to the teachers of this present parochial-tongued, non-lingual school generation. The plates are splendidly chosen and should prove a source of satisfaction and curiosity. My only regret is that Miss Mason—perhaps in her effort to be unpretentious—has allowed herself a solecism or two (an irrelevant relative, a too colloquial adverb).

Whoever her audience, whatever her purpose or her parable, we must be grateful to Miss Mason that she has, by her sensitive understanding and true scholarship, removed the bust from the museum and made a great man come alive.

CYNTHIA OEHLER

Stephens College

Roman Portrait Sculpture

The Athenian Agora. Vol. I, Portrait Sculpture, by EVELYN B. HARRISON. xiv, 114 pages, 49 plates. The American School of Classical Studies at Athens, Princeton 1953 (Results of Excavations Conducted by the American School of Classical Studies) \$6.00

The first volume of the final reports on the epoch-making excavations of the civic center of Athens deals not with the Athens of Pericles or Demosthenes, when the Agora was the political center of the ancient world, but with the products of Roman Athens—the time when Athens had

become a peaceful university town and the Agora a kind of large museum. As Miss Harrison aptly says: "For the most part the people of our portraits must be the members of the late Athenian aristocracy, people whose pride in their ancestry increased as their achievements in the contemporary world diminished in importance."

The heads and statue fragments published date from the time of Roman rule, from the first century B.C. through the fourth century A.D. They represent some sixty portraits. If one considers how densely Athens must have been populated with portrait statues in the time of the Roman Empire, this is not a large harvest, yet it constitutes important material for the hotly debated question: "What is Greek in Roman Art?"

Vergil had laid down the creed that Romans should attend to the business of ruling their empire and leave fine arts to others (meaning Greeks). This division of labor appeared so plausible that many modern scholars still regard Roman art as Greek art in disguise. Some of them argue that Athens, as the stronghold of Greek artistic tradition, was a great force in the art world of the Roman Empire, and, indeed, in the formation of Early Christian and early mediaeval art. Obviously, a detailed and reasoned investigation of artistic activity in Athens under the Romans is needed to decide whether these contentions are true—an investigation we do not as yet possess. Miss Harrison is well aware of this problem. She provides an exemplary descriptive publication of the portraits found in the Agora, but she does not stop there. The last thirty pages of her book are devoted to a readable and intelligent account of "Athenian Portrait Style in the Roman Period," in which she carefully considers the artistic relations of Greece and Rome as they are reflected in portraiture. She shows that in the first century B.C. "Roman portraiture was being Hellenized, while the Greek was being Romanized." Augustan classicism was not congenial to Greek sculptors, but from the end of the Augustan era to the mid-third century A.D. the development of portraiture in Greece followed the lead of Rome. Finally, the large scale activity of portrait sculptors of Athens declined shortly after Athens had been sacked by the Heruli in A.D. 267; there was no

The Tomb of Hetep-heres: The Mother of Cheops

A HISTORY OF THE GIZA NECROPOLIS, VOLUME II

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GEORGE M. A. HANFMANN
Harvard University

Observations on Roman Portraiture, by G. M. A. HANFMANN. 56 pages, 3 plates. Latomus, Berchem-Bruxelles 1953 (Collection Latomus, Vol. XI) 60 B. fr.

The first three chapters of this essay publish three Roman portrait heads acquired since the last war by the Fogg Museum of Harvard University. The heads, all male, represent a wide range both in date and in quality: a portrait of Lucius Verus, A.D. 161-169, in Greek

island marble and slightly under life size, mediocre in conception and execution; a good and interesting portrait of the Late Severan Period (by the author's definition A.D. 220-250) in Carrara marble; and a magnificent though battered head in fine-grained marble which seems to have been made by a court sculptor in the third quarter of the third century. The presentation of these pieces is a model of sympathetic evaluation; it makes clear the esthetic and historical interest of each without obscuring the considerable difference in worth that exists among them. The happy circumstance that the qualitative scale runs parallel with the chronological permits this section to rise evenly to its climax with the latest head, which expresses with a technical virtuosity rare in its period the psychic tension of the "age of crisis."

The task of publishing these heads led the author to reflect on the study of Roman portraiture in general and how one might better assess its distinctive contribution. His thoughts center around the theme of personality: "Roman insistence upon personality in literary history is paralleled by Roman

insistence upon personality in portraiture." The path which he maps out begins, however, with a sorting of material. First, an attempt should be made to choose from the mass of Roman portraits those of high artistic quality. Second, we should try to recognize and understand some of the individual artists who created the best works. The second aim suggests as its prerequisite a task of collection: the assembling of all the literary and epigraphical testimonia for artists in Roman times, especially during the Empire. This might demonstrate what is already a reasonable hypothesis, that favored court portraitists created approved portraits of the emperors and that many of the masterpieces are their work.

Next are outlined some directions from which to approach the problem of personality in Roman portraiture. These include analysis of the ancient concept of personality itself and inquiry into the means employed in a given epoch to express personality. It is suggested that "the discussion of 'personological' meaning of traits of physique and expression in modern personality studies might lead students

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of ancient portraiture to greater exactness in their analysis of ancient personalities." The concluding chapter is a rapid survey of the history of Roman portraiture as portrayal of personality. Most striking of the ideas presented is that of a deliberate ambivalence in portraits, beginning with those of Pompey, Cicero and Caesar. "Like Roman biographers of that age, the Roman portraitists seem to think of these personalities as composed of contrasting elements, of beauty and ugliness, strength and weakness, virtue and vice." Though temporarily submerged in the time of Augustus, the ambivalent interpretation runs through portraiture from Tiberius to Trajan. From Trajan on the focus is no longer upon the conflict of good and evil within the individual. We have instead (from Trajan to Commodus) the picture of the emperor as he feels he ought to be: dignified, moral, thoughtful. After this (Commodus through the Early Severan) comes a defiant reassertion of the dynamic qualities, will and brutal passion. Third (Late Severan), there is a retreat from the uncertainty of the world around to the single identity of the individual, emphatically expressed in specific features. In the second half of the third century the inward retreat goes farther and becomes a search for an inner reality more sure than anything physical. The physical appearance becomes only a background; the old dichotomies give place to a new dichotomy of body and soul.

Altogether, a great deal of stimulating thought is packed into these few pages, which remain, for all that, readable. We have come to recognize how great is the need for review by competent scholars of the aims and methods of scholarship in various fields. Though some of the goals that Hanfmann sets are far from easy, the wholly constructive spirit in which his ideas are presented, as new possibilities for the future, not as opportunities missed in the past, makes this one of the most encouraging essays of its kind.

EVELYN B. HARRISON
*American School of Classical
Studies at Athens*

History Warmed Over

Ancient History of Western Asia, India and Crete, by BEDRICH HROZNY. xx, 238 pages, 144 figures, 9 plates. Philosophical Library, New York 1953 \$12.00

This volume, clearly meant to have popular appeal, seems to be an English translation of *Die älteste Geschichte Vorderasiens*, of which a second edition is listed for 1943. Certainly no literature later than 1943 is cited in the English edition. Professor Hrozný is dead. Nevertheless the publishers indicate no date for the book other than a Prague copyright of 1953. Anyone paying \$12.00 for this book is being grossly cheated by the publishers.

Furthermore, while it is a bit diffi-

cult to recall just how things stood in 1943, one has a passing impression the book would have been about ten years out of date for that year, and pretty lop-sided history anyway. Hrozný's style is irritatingly immodest. There are heavy overtones of racism and of invasions by mysterious "people from the north" (why did they always have to come from the north?). The author offers translations of both the Harappan and the Cretan Linear B scripts, primarily by means of what he took to be sign similarities with Hittite. It is enough to say that the Cretan worked out much better Ventris' way.

The illustrations and the size of the type would make the book comfortable to read were this worthwhile.

ROBERT J. BRAIDWOOD
University of Chicago

Polynesian Origins

American Indians in the Pacific: The Theory Behind the Kon-Tiki Expedition, by THOR HEYERDAHL. xv, 821 pages, 91 plates, 11 maps. Rand, McNally & Co., Chicago 1953 \$15.00

Through book or film everyone knows of *Kon-Tiki*, certainly one of the great adventure stories of modern times. And because this daring voyage by Thor Heyerdahl and his associates on a balsa raft was made to find support for a "scientific" theory, there is great popular interest in knowing what that theory is and whether it is bonafide or not.

This big volume is Heyerdahl's full treatment of his theory that the Polynesians, the native peoples of the Central Pacific islands, had their racial and cultural origins in America rather than in the islands farther west and in Southeast Asia as is commonly held by most anthropologists. The thesis involves two waves of migration into Polynesia, an earlier one from the Pacific coast of South America by means of balsa rafts, and a second from the northwest coast of North America to Hawaii. The first is held to account for a number of the basic elements of Polynesian culture as well as for the predominantly Caucasoid strain to be seen in the Polynesians. It is suggested that peoples of Caucasian physical type were at one time present in the ruling classes of the Middle and South American civilizations and derived originally

from the European continent. The later migration from the Northwest Coast Indian region of British Columbia would account for the many marked similarities, often noted, between the cultures of the Northwest Coast and Polynesia. Here travel was by means of canoes along a recognized drift route between these two areas.

Many different kinds of evidence are brought together in the attempt to substantiate this thesis. Cultural parallels such as in styles of stone sculpture, in houses, canoe types and mythologies are described at length, making the book a valuable compendium of such information. There is a noteworthy chapter on Peruvian navigation and the history of the balsa raft. In all, the book represents a long and devoted interest in the problems of Oceanic cultural history, but it does not convincingly demonstrate that most of the anthropologists have been wrong in looking to the west for the origin of the Polynesians. Evidence in favor of the thesis has been selected and emphasized while conflicting evidence is often minimized, the most glaring example of the latter being a misunderstanding of

the importance of the well established relationship of Polynesian to the languages of the Indonesian area.

We are inclined to think, therefore, that Heyerdahl has not proved his unorthodox "theory," although his book is a stimulating and in many ways a valuable contribution to our slowly developing knowledge of the history of man in Oceania.

GORDON F. EKHLOM
*The American Museum of
Natural History*

Ancient Painting

Malerei und Zeichnung, by ANDREAS RUMPF. xxxvi, 199 pages, 21 figures, 72 plates. C. H. Beck'sche Verlagsbuchhandlung, Munich 1953 (Handbuch der Archäologie im Rahmen des Handbuchs der Altertumswissenschaft, Volume IV, 1) DM 38

This ill-starred volume, first assigned decades ago to Ernst Pfuhl, later reassigned to Gerhart Rodenwaldt when Pfuhl's contribution on Greek painting and drawing grew too large for the

series and was separately printed, still later ceded to Rumpf for vase painting and to Arnold von Salis for painting and mosaic, has at length been prepared solely by Rumpf. Its composition reflects this unfortunate history. Of the twenty-eight chapters devoted to ancient painting from the Geometric period to the age of Theodosius II, twenty (166 pages) are reserved for painting and drawing preceding the late second century B.C., eight (pages 167-197) for the entire subsequent period. Thus while more than five centuries of late Hellenistic and Roman painting are reduced to thirty-two pages, more than two thirds of this space is allotted to Greek and Etruscan painting from 750 B.C. to "The Age of Exekias"! Yet the vast majority of monumental paintings preserved from antiquity—of domestic and funerary wall painting and mosaic, not to mention the Fayoum portraits, book illustration, paintings on glass, wood and the like, all of which are touched upon—come from this rich period. The author has done himself and the reader a grave disservice in thus allowing his extensive knowledge of Greek ceramics

Excavations at Star Carr

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There is a chapter on lake-stratigraphy, pollen-analysis and vegetational history by D. Walker and H. Godwin; and a chapter on faunal remains by F. C. Fraser and J. E. King. There are 24 plates and 80 figures in the text.

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so to distort his total view of ancient painting.

This bias is reflected in every facet of the book. While new bibliographical items have been inserted into the notes on vase painting even during the production of the book, major contributions to Roman painting like Dawson's *Romano-Campanian Mythological Landscape Painting* are conspicuously absent. Outstanding paintings and primary sources to be expected in a handbook are not discussed (Heraclies and Telephos from the "Basilica" in Herculaneum; Philostratos' *Imagines*). Essential problems such as the technique of Roman mural painting or the nature of ancient perspective are overlooked or inadequately considered. The author's disarming statement (page 177) that "many, all too many examples" of Fourth Style painting are preserved evidently provides the clue to many, all too many of these omissions. Such bias is scarcely legitimate in the writer of a handbook.

And surely a handbook is not the place to launch new terminology, unorthodox dates, highly personal views.

Yet, to cite only a few examples, the Idaean and Daedalic periods of vase painting appear (750-650 B.C. and 650 to the "Age of Sophilos" respectively); the Thermon metopes correspond in style to Proto-Corinthian vases; the Centuripe vases are restricted to the third century B.C.; Athens is the home of the First Style and of the Hall of the Mysteries in the Villa Item. Amid the welter of statements, essential issues are left unclarified, even unformulated.

Rumpf's attempt to avoid unfavorable comment on his plates crowded with small, frequently wretched illustrations by the curious statement (page iv) that his book is intended not for pleasure but for instruction will leave the reader aghast. Are many poor illustrations more instructive than fewer more adequate reproductions? And if so, why are major monuments discussed in the text omitted from the plates? Evidently because the reader is assumed to know them intimately. For whom is this book written, one may well ask? Certainly whoever does consult it will deplore its lack of indices.

It is a pity that Professor Rumpf's contribution to this series was not limited to the chapters on Greek and Etruscan painting and drawing, areas in which his learning and connoisseurship have long been established. Supplemented by equally up to date and informed chapters on Roman painting, and adequately illustrated, it might then have formed part of a balanced, objective and richly illustrated handbook on Greek, Etruscan and Roman painting and drawing. Now that opportunity has been lost.

PHYLLIS WILLIAMS LEHMANN
Smith College

Gaul under the Romans

Roman Gaul, by OLWEN BROGAN. x, 250 pages, 35 figures, 16 plates, 1 map. Harvard University Press, Cambridge 1953 \$4.25

In the preface of this work Mrs. Brogan describes her book as "an introduction to students and travellers who may wish to get a general picture of Roman Gaul, its history and its

chief monuments." This is a very modest appreciation of the qualities of a work in which the author has brought together and condensed in a remarkable synthesis everything which a non-specialized archaeologist should know about Roman Gaul. Although Mrs. Brogan's information is quite up to date, specialists in Gallo-Roman antiquity will here find no new information—and this was not the purpose of this work—but their attention will be drawn by many original viewpoints and remarks which one should like to find developed in more detailed articles. Mrs. Brogan gives a clear account of the history of Gaul from the Roman conquest up to the final collapse of Roman power in the times of Syagrius. She draws condensed but exact pictures of the daily life in the towns and in the countryside of Roman Gaul and she gives remarkable descriptions of the ancient monuments which still exist. One will also find an excellent *status quaestionis* of our knowledge of the different Gallo-Roman towns and very vivid pages on social and economic life, on art and on religion. The illus-

trations are rich and well chosen. As a certain French reviewer has written, one could wish that French archaeologists might know as much about Roman Britain as Mrs. Brogan knows about Roman Gaul.

S. J. DE LAET

University of Ghent

Masterpieces of Ancient Jewelry

Collection Hélène Stathatos: *Les bijoux antiques*, by PIERRE AMANDRY. 150 pages, 80 figures, 54 plates. Pierre Amandry, Institut d'archéologie de l'Université de Strasbourg, Strasbourg 1953 \$20.00

Only by seeing Mme. Stathatos' remarkable collection in its elegant Athenian setting can one completely appreciate its beauties, but great pleasure may also be derived from turning the pages of this sumptuously produced volume in which her jewelry and related objects are meticulously described, carefully studied and illustrated in a superb series of plates.

Pierre Amandry has given the ma-

terial a publication worthy of its quality. Beginning with illustrations of objects in the collection which have previously been published elsewhere, he then takes up the several groups in chronological order. Admitting that "bijoux" is too narrow a term for the contents of the volume, he includes vases and other objects found with the jewelry. In doing so he emphasizes the fact that Mme. Stathatos has not, like many others, collected isolated objects for their aesthetic value alone, but has endeavored, wherever possible, to secure all the objects found together in a single place. The task is a difficult one—those who dig clandestinely for profit are not interested in archaeology—but certainly there is more chance of success than in the case of a collector living outside the country where the digging is carried on.

There are four main groups of jewelry in the collection. The Mycenaean jewelry includes gold rings, gold plaques and sealstones. Next follow some remarkable earrings and a pendant in the "Dedalic style," from Argos, dating from the third quarter of the

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seventh century B.C. The Macedonian jewelry which follows is probably all from one place, a cemetery near Salonica. Dating chiefly from the sixth century B.C., it includes notable and unique pieces. Gold plaques, perhaps once applied over the mouths of the deceased, a gold face mask and a bronze helmet of Illyrian type with which it may have been associated, silver bracelets, beads, fibulae, pendants—the group is a large one. There are important parallels with the Trebenishte finds. Most interesting are perhaps the gold bands of filigree work, unique in Greece, where filigree was thought to have been unknown at this period. Amandry finds similar bands in Etruria and suggests connections with that people at the beginning of the sixth century B.C. He reminds us that the Via Egnatia of the Romans was built over a very old road.

A group of Hellenistic jewelry, all from Thessaly, is the most spectacular of all Mme. Stathatos' possessions. Despite confusion concerning the provenance of these objects and similar ones in other collections, Amandry succeeds in associating forty-four pieces, now in the Stathatos and Benaki collections. Included are a unique gold *naïskos* showing in relief a drunken Dionysos leaning on a satyr, gold medallions with busts of Artemis and Aphrodite in relief, gold necklaces, rings, earrings, bracelets and belt buckles. To these splendid pieces Amandry devotes

searching study, concluding that they were made in Macedonia, which was famous at the time for such jewelry.

Throughout the volume is emphasized the unity of the various groups and the importance of establishing the origin of each. "If one accepts, at least as probable, this localization of ateliers," says Amandry, "one must agree that the Stathatos collection furnishes for the study of Macedonian jewelry from the Archaic to the Hellenistic epoch . . . a documentation which cannot be equaled for richness, diversity and quality."

G. D. W.

finds of the season of 1946-1947.

The excavations consist largely of trenches dug into the northwest corner of the mound. Levels I to XVI, excavated before the war, revealed material reaching back from Islamic and Byzantine times through the Early Iron Age and Hittite times to the Copper Age and Chalcolithic of the fourth millennium. Preliminary soundings indicated still earlier Neolithic materials at the foot of the mound. After the war, Professor Garstang, aided by V. Gordon Childe, worked this lower area, connecting the Chalcolithic Climax of Level XVI with the Middle Chalcolithic of Levels XVII-XIX, which have relationships with the Halafian, the Proto- and Early Chalcolithic of Levels XX-XXIV, which have Hassuna affinities, and the Upper and Lower Neolithic of Levels XXV-XXVI and Levels XXVII-XXXIII respectively. While the Neolithic and Chalcolithic sequences provide a straightforward picture of cultural development in Cilicia so vital for relations between Syria, Anatolia, and the Aegean, the materials from the second millennium for the Cappadocian and Hittite periods are scrappy.

Although this volume does not bring the final answer for Cilician stratigraphy, it does present the Mersin materials in a usable form in terms of cataloguing, drawings and plates.

HOMER L. THOMAS

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